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ORIGINAL ARTICLES.

IMMUNITY, NATURAL AND ACQUIRED.

J. M. FRENCH, M.D., MILFORD, MASS.

When Edward Jenner, the medical student, in 1766, heard the casual remark of the milk-maid who had called to consult his master in regard to some trifling indisposition, "I can't take the small-pox, for I have had the cow-pox," his attention was arrested by her careless words, and he revolved them in his mind until he became convinced that they contained the germ of a great discovery. But neither then, nor when, after twenty years of study and experiment on animals, he made the first vaccination in a human being, on the fourteenth day of May, 1796, did he have any conception of the real magnitude of that discovery, or the tremendous import of the act he that day performed. Nor did he in his wildest dreams imagine that, when its primary results should have been wrought out, in bringing under control and almost stamping out of existence one of the most dreaded of all diseases, after an incubation-period of one hundred years, the idea to which he had that day first given expression in deeds, should break into new life, and run a fresh course of triumph, revolutionizing the medical practice of the world, and—as we this day have reason to believe may be the case—saving in its secondary stage thousands and tens of thousands of lives, where in its primary it had saved but tens and hundreds.

Historically as well as logically, vaccination was the foundation of the serum treatment of disease, and the first attempt to produce artificial immunity from a dangerous specific disease, by the substitution of a milder form or a less dangerous disease.

Let us consider for a few moments the general subject of immunity or freedom from the liability to specific infectious diseases, and the means by which it may be secured.

In the first place, certain species of animals, and some individuals of the human race, are not susceptible to certain diseases. For example, goats are not subject to tuberculosis; rats are immune against anthrax; here and there we find individuals who cannot be successfully vaccinated, and who do not take small-pox; others never have scarlet fever, measles, or mumps, no matter how often or how fully they may be exposed to these diseases. This is natural immunity.

Acquired immunity from the specific infectious diseases is brought about by

undergoing an attack of the disease in question, whether contracted accidentally or communicated by artificial means. Thus, a child who has recovered from an attack of scarlet fever, is usually thereafter immune from that disease. One who has been inoculated with small-pox, has, after recovery been rendered artificially immune thereto. The great objection to these methods of immunization is, that they are accompanied by a great degree of inconvenience, suffering and danger to life on the part of the patient; and not only this, but owing to the contagious nature of the disease, they are full of danger to the community.

The practice of vaccination for the prevention of small-pox, which was introduced through the efforts of Jenner, is but a modification of the method of producing acquired immunity. Its superiority consists in the fact that it substitutes a slight and trifling disease for a severe and dangerous one; and furthermore, that it is not communicable in human beings by the ordinary methods of infection. Whether kine-pox is a disease distinct from small-pox, though similar to it, or the same disease merely modified by passing through the system of an animal less susceptible to it than is man, is a question which is not definitely settled, but with the probabilities strongly in favor of the latter theory.

Another modification of the method of producing acquired immunity, which was brought about mainly by the researches and experiments of Pasteur, consists in the introduction into the system of weakened or attenuated cultures of the virus of the disease, thus producing a mild form of the disease instead of a severe one. The attenuation or dilution of the virus is accomplished by exposure to air, to heat, or to certain chemicals. The symptoms resulting from inoculation with this product he found to be notably less severe than those of the typical disease, while at the same time full future protection was afforded. It will readily be seen that this is but an extension of the principle of vaccination. Pasteur himself stated the theory by which he explained these results as follows: "To exhaust a soil, a parasite less vigorous and destructive than the really virulent one may suffice; and if, after having by means of a feebler organism, exhausted the soil without a fatal result, the most highly virulent parasite be introduced into the system, it will prove powerless." Chaeran, on the other hand, believed that during the process of immunization, certain bacterial products are formed which are injurious to the microbes, thus rendering a second infection impossible. This approaches more nearly to the later theories than does Pasteur's.

By this time there were a multitude of investigators in the field, and the bacteria of the different diseases were being studied on every side, with the aid of culture fluids, chemical agents, and the microscope. It was discovered that the ultimate agent in the production of the infectious diseases is not the germs themselves, but certain poisonous chemical products known as toxins, to which they give rise. It was also found that these toxins could be separated from the germs themselves, and that inoculation with them produced the same results, both as to present symptoms and future immunity, as that with the living germs, but without the intervention of any considerable period of incubation. A careful study of the natural history of the resulting processes, led to the belief that under the irritating influence of the toxin, the tissues are stimulated to produce a counterpoison, or antitoxin, which is the active agent in the production of acquired immunity. There are two theories as to its mode of action, the chemical and the vital. The former, advocated by Behring, holds that it neutralizes the toxin by a chemical action, and the latter, which is supported by Roux and Buchner, that destroys the susceptibility of the tissues to the toxin.

While these discoveries were being worked out, it was also observed that healthy blood and lymph possess to a greater or less extent the property of destroying the germs of disease, and that this power differs in degree in different classes of animals and in different individuals. It was shown that this property was the result of certain albuminoid substances which are found dissolved in the blood, and that the

serum from an animal naturally immune to a certain disease will destroy more germs than that which is derived from animals, very susceptible to the disease.

The next important step in the progress of serum therapy, was the fact established by Behring, that "the blood and blood serum of an individual which has been rendered artificially immune against a certain infectious disease, may be transferred into another individual, with the result to render the latter also immune, and also if given in sufficient quantity, to bring about recovery after infection with the disease." This is known as Behring's law, and is the fundamental principle in the serum treatment of disease. And this process of immunizing by the direct injection of serum containing antitoxin, is the fourth method of producing acquired immunity, and differs essentially from the previous methods.

The normal blood serum of animals naturally immune against certain diseases, while destroying the germs to a certain extent, does not possess any immunizing properties when transferred to other individuals. Therefore the immunizing agent is not any substance naturally formed in the blood, but instead, a chemical substance, or antitoxin, formed by the tissues in response to the stimulating influence of the toxin, or disease-producing agent.

Acquired immunity, then, is of two kinds, that which is brought on by undergoing a disease, either in its normal or a modified form, and that which is produced by a direct injection of antitoxin. The first comes on only after a certain definite period of incubation, and a regular course of the disease. It remains after all trace of antitoxin has disappeared from the system, and may be either permanent, or persist for an indefinite period. The second makes its appearance immediately, and disappears when the last trace of antitoxin has disappeared from the system.

But immunity, whether natural or acquired, and in whatever way acquired, can be transmitted from one individual to another, only while antitoxin is present in the blood.

The differences between the two forms of immunity, the one caused by an attack of the disease, and the other by an injection of antitoxin, are stated by Aronson as follows:

"1.—The immunity effected by the antitoxin injection appears at once.

"2.—By increasing the amount of the injection, protection against an infection of any strength may be afforded.

"3.—Immunizing is accompanied by no reaction.

"4.—The acquired immunity is of relatively short duration."

Behring sums up the principles of the blood serum therapeutic method thus:

"1.—It is an antitoxic method by which we endeavor to combat those infectious diseases that we know to be of micro-parasitic origin; these include the infectious diseases, and certain vegetable and animal poisons (as make poison). The specific antitoxins, which are the active agents, have until now been found in quantities sufficient to be available for human medication, only in the blood of immunized animals.

"2.—It is a principle of blood serum therapy that larger doses are never injurious, but on the contrary can be only beneficial.

"3.—The blood serum therapy is a specific therapy. Each blood antitoxin is immunizing and curative for only one infection.

"4.—Under the influence of a specific toxin, there is produced a specific antitoxin from the albumen of the living cell. Whilst this is going on, there is a disturbance of the regulating mechanism of the general organism. The febrile and other symptoms of a toxic infection are an expression of the effort of the living organism to render the foreign body innocuous. In animal experiments we can so arrange things that the living organism succeeds. In immunizing animals we can render the absorption of even larger quantities of the poison harmless by increasing the antitoxin production.

"5.—If we examine the bodily fluids after recovery from an artificial or natural toxic infection, we find not only that the toxin is compensated by the antitoxin, but that there is a surplus of the latter. This surplus is the reason why a larger quantity of the toxin must now be introduced, in order to produce

an intoxication. And this surplus can be employed to help other individuals to overcome the same intoxication. The entire blood serum therapy rests on this fact.

"6—Since these antitoxins are soluble chemical bodies, it is not impossible that they may eventually be produced outside the living body, or even compounded synthetically."

SUSCEPTIBILITY AND IMMUNITY WITH SPECIAL REFERENCE TO SURGICAL CASES.*

ROSWELL PARK, A.M., M.D.,† BUFFALO, N. Y.

The topic of immunity and susceptibility is of fundamental importance, since the conditions which predispose to infection or enhance resistance to it are matters of the greatest importance to every operating surgeon, and should be taken into account in weighing the advisability of all grave emergency operations. Immunity may be spoken of: (a) as local and general, (b) as congenital and acquired, and (c) as absolute and relative, according to the light in which we consider the subject.

Man seems to be immune from numerous infections which are common to many of the domestic animals,—for instance hog and chicken cholera, and symptomatic anthrax, while he is in common with them susceptible to the infection of anthrax, glanders, tuberculosis, and actinomycosis. Secondly, men differ very much among themselves in susceptibility to the same disease. This is particularly true with regard to the exanthemata, small-pox, cholera, and influenza. A large percentage of mankind escape scarlet fever though repeatedly exposed, and I have often seen children who have never had them exposed to measles without taking them. We explain this by saying that at the time of exposure their bodies were not receptive or were resistant; all of which is a statement of apparent fact, but no explanation.

Susceptibility seems to be inseparable from a study of the causes which favor infection, and of these the first to be considered is the virulence of the infecting organisms and the amount introduced. Even in the same species of bacteria there is great difference in virulence under different conditions, depending upon circumstances incapable as yet of exact statement. With some organisms, to infect an animal with a single bacterium is enough to bring about a fatal result. Man is much more susceptible to pyogenic organisms than most of the lower animals. The virulence of micro-organisms is itself affected by temperature, sunlight, moisture, dryness, as well as by association with other bacteria. Those which have been repeatedly passed through the animal body become more virulent than those cultivated for generations in laboratory test-tubes. Variable virulence is especially characteristic of the cocci of erysipelas, the colon bacillus and the anthrax bacillus. The ordinary bacillus prodigiosus is ordinarily held to be non-pathogenic, but its presence has a strange, often reinforcing effect upon the virulence of other organisms, in some cases enhancing it, and in others suppressing it.

No better illustration of the combined effect of exciting and contributing causes can be found than in pneumonia. The micrococcus lanceolatus is present in the salivary secretions of many individuals. Nevertheless it acts as the infecting agent in producing croupous pneumonia only under peculiar circumstances, the most notable of which seems to be exposure to cold, bad hygienic surroundings being a secondary and contributing cause.

Under natural circumstances bacteria are seldom found in pure cultures, while

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†Professor of Surgery, Medical Department University of Buffalo.

by mutual association remarkable changes are produced whose results are so strange and so contradictory that no law governing them has as yet been formulated, it being considered necessary to establish each case by experimental investigation.

Explanation of the fact that immunity is transmitted from parent to offspring is as remote as ever, but its recognition is of the greatest importance to surgeons. Liability to infection seems to some extent at least, a feature of hereditary habit of tissues.

Local predisposition is a factor of great importance. Given a distinct infection, and hyperæmia is often a contributing cause to inflammation. On the other hand anæmia of the tissues seems sometimes to be a favoring condition. In parts involved in chronic congestion the blood flows more slowly, while vessels are dilated and susceptibility is apparently thereby increased. Infection here produces a type of disease often spoken of as hypostatic inflammation. General anæmia is also a predisposing cause, while such toxæmias as diabetes, etc., are still more so, the liability of diabetic patients to suppuration and gangrene being proverbial.

The presence of foreign bodies has also much to do with infection, since, when bacteria and foreign bodies are introduced together, the presence of the latter will always excite suppuration, which would not occur without it. The withdrawal of trophic nerve influence also permits of infection, as is instanced by the ease with which bed-sores form in paralytic patients. Obstruction to circulation or to the escape of secretion also easily permits infection. The ease with which the colon bacillus pierces through the coats of an intestine which has been in the slightest degree disturbed or abraded, is wonderful. In time past it has been held that the presence of blood-clot within a wound was most undesirable, it being thought that it offered a favorable nidus for the development of bacteria. It has been recently shown that virulent organisms injected into blood-clots occasion no suppuration. Blood-clot has therefore been of late utilized in the healing of a certain class of wounds, and we now know that a retained clot which produces no undue tension, is not a common source of danger.

It is being more and more clearly established that those organs which are in the course of ages, undergoing retrograde metamorphosis or are disappearing, are especially liable to infection and inflammatory destruction. This is particularly true of the appendix, and true as well of those collars of lymphoid tissue, which surround almost all of the original outlets or inlets of the archetype embryo. If it should prove true that cancer is a parasitic condition, the fact that it is most likely to occur in such localities as the pylorus, the cæcum, etc., illustrates this statement. At all events it seems to be largely true that lymphoid tissue is retrogressive in its tendencies, and all such tissue is particularly liable to infection.

Pre-existing disease has an important influence on the liability to infection, and among these the most important are the previous and long existing toxæmias, as scurvy, diabetes, syphilitis, etc. Next come diathetic conditions like lithæmia, cholæmia, acetonuria, and the various conditions represented by oxaluria, or those in which acetone, peptone or excess of uric acid are found in the urine. It has been recently shown on the experiments of Panzini that the addition of uric acid as well as of glucose to blood serum markedly diminishes its bacteriocidal activity. On the other hand the injection of an alkali into the blood of a rabbit increases its resistance to anthrax, and enhances the bacteriocidal power of its blood serum.

Recent toxæmias have an important bearing on the matter, as for instance after typhoid or any other acute lasting disease, including the exanthemata, surgical operations are sometimes followed by a failure of the tissues to heal and they should consequently be postponed until after complete recovery, save in cases of emergency. The puerperal state is also one in which operations are to be avoided if possible. But above all the ordinary expressions of recent toxæmia is to be placed that somewhat vague and varying condition which I like to call enterosepsis or intestinal toxæmia, which has been spoken of in times past as fecal anæmia, stercoræmia, copræmia,

etc., as one whose existence makes positively dangerous the performing of operations of any kind, since it certainly predisposes to septic disturbance. It is a condition of chronic intoxication in a more or less mild degree, in which state no wise surgeon likes to operate unless compelled. I would wish also to place much more stress upon a condition still somewhat vague, ordinarily spoken of as lithæmia, characterized by hyperacidity of the urine, and often by crystals of oxalates in the urine as one which should always be corrected if time be given before any serious operation. Of itself it is serious, but it is worse yet in connection with surgery since it often leads to the auto-intoxication just spoken of from the intestinal canal; and the two together constitute a condition which is likely to baffle the surgeon's best efforts.

There are also to be taken into consideration the anatomical changes peculiar to the various ages, for example the arterial scleroses of old age, with their accompanying cardiac debility and other tissue alterations which favor sluggishness of repair and lead not infrequently to sloughing and bed-sores. Amyloid changes also betoken impaired vitality. Nursing infants, while apparently exempt from the infectious diseases, possess relatively small power of resistance to surgical operations. General anæmia and impaired bodily nutrition predispose to most infections and acute starvation also.

Diet has much to do with tissue resistance. Hunger, prolonged thirst, and fatigue, either greatly lessen or totally destroy natural and artificial immunity to certain forms of infection. Drugs or foods which impair the vitality of the red corpuscles reduce immunity and even the injection of water into the circulation lessens the germicidal power of the blood. If this be so, one may better appreciate the effect of the various toxæmias alluded to, which may proceed from the intestine or from the genito-urinary tract. Climate, as well as extremes of weather, has much to do with influencing resistance to infection, or recovery after serious operations. Dark habitations, poorly ventilated, constitute surroundings which notoriously predispose. Certain occupations predispose. Workers in mother of pearl are exceedingly liable to a peculiar form of osteomyelitis, while the peculiar effects of phosphorus and mercury in producing necrosis are classical. It is important also to remember that the prolonged necrosis of these drug intoxications may produce such changes in the blood and tissues that vital processes of repair, cell resistance and chemiotaxis may be so far interfered with, that subsequent infection may be facilitated. This, too, may be at least the possible effect of certain antiseptic agents, which, if used in too great strength, interfere with normal reactions, and lead to decomposition, either of drugs or of vital fluids, by whose products harm may be done.

Finally, the influence of local injury to tissues, particularly of contusions which cause tissues to lose their vitality, is a thing to be strenuously insisted upon as predisposing to infection. Both in clinical experience, as in experimental investigation, it is every day shown that tissues that ordinarily resist infection succumb to inoculation after bruising the ligature *en masse*.

In only a very limited class of cases may infection be transmitted from the mother to the fœtus, but when this can be done the surgeon is deeply concerned. While syphilis is the only infection capable of direct transmission through the ovum or spermatozoon, intra-uterine infection may yet occur, since the placenta is not a perfect filter, but is occasionally passable by micro-organisms. It may be made pervious either by pre-existing lesions, or by virulence and activity of the bacteria. In animals for instance, the bacilli of chicken cholera and of symptomatic anthrax, as well as even the pyogenic cocci can traverse this barrier. In mankind, infection has been observed *in utero* in small-pox, measles, scarlatina, relapsing fever, syphilis, tuberculosis, croupous pneumonia, typhoid fever, anthrax, and common septic infection.

Immunity may also be: (a) local or constitutional; (b) congenital or acquired; and (c) may concern some particular infection or amount to a general protection. Immunity from a particular infectious disease is often conferred by one attack. This is for the most part

true of the exanthemata, yellow fever, etc. It is not true of tuberculosis, nor the so-called surgical infections; neither is it true of septic infection as septicæmia, etc. It is true only in a very modified form of diphtheria.

Immunity is in some sense a racial characteristic, as in the case of the Japanese who it is said never have scarlet fever, and of the negroes who never have yellow fever. The essential characteristic, however, which makes the negro immune against yellow fever does not protect him against tetanus, for instance, to which he is unusually susceptible. Negroes are less liable to malaria and to dysentery than Europeans. Japanese are more susceptible to beri-beri than are Europeans.

Acquired immunity may be natural or artificial,—natural in the instances mentioned above, artificial when produced by inoculation with attenuated bacteria, or by the injection of certain chemical substances, or by change of environment, or by modification by food and drugs. The most effective, the most prompt and the most measurable effects are produced either by inoculation with bacteria of attenuated virulence, by injection of sterilized culture, by the employment of blood serum, or by the use of some antitoxine separated and concentrated from serum, taken from animals rendered immune by one of these methods. It should be emphasized that serum used for this purpose deserves more than the term protective often applied to it. It is often in effect a healing serum, since it does more than protect against the disease,—it usually helps to cure it while in its active stage. Acquired immunity is not necessarily a matter of juggling with bacteria of the disease in question, but may be produced by the employment of others. Of interest also is it to state that individuals or animals possessing a natural immunity against a given disease, have in their blood serum no immunizing substance against that disease. This substance is only to be produced by an artificial immunization.

In a general way, it may be said that the conditions which afford protection, so far as they are controllable by the surgeon, are those which tend to increase what, for lack of better knowledge, we must call vital resistance, and to decrease vulnerability. The ideal condition is that which is summed up in the generally received expression of "perfect health," in which the various secretions and fluids, possessing their normal acidity or alkalinity, are sufficient to render inert or to destroy harmful organisms entering their precincts. Where there is perfect equilibrium between ingestion and secretion, which shall permit no extravascular excitement, no congestion, no exudate which may become infected, in other words, where the natural functions are performed in an ideal manner, under these circumstances almost any accident may be survived and repaired without any perceptible struggle, the tissues and fluids being in their healthy state abundantly able to dispose of such bacteria as occasionally enter. Traumatic exudates are now speedily absorbed, and the hyperæmia of irritation is quickly compensated for; while here we find those general conditions which surgeons everywhere rejoice to see and under which they feel warranted in making any necessary interference. Here too should infection by any accident occur, as by the introduction of any foreign body, phagocytosis is so prompt, and filtration through lymph nodes so thorough, that the worst that may happen is local suppuration. This general condition is met with in its most complete expressions where no hereditary influences have conspired to dwarf organs or impair their activity; where no poison like that of syphilis or uric acid or alcohol interferes with perfect nutrition and normal cell activity; where exposure has not lowered tissue vitality; where starvation and fatigue have not conspired to temporarily reduce it; and where mental worry has not lent its aid in contributing to impair normal processes. These then are the conditions which afford protection and under which the surgeon loves to work.

The conclusions of surgical importance which may be legitimately reached from a study of these conditions are essentially these: That the surgeon in emergency cases has to do the best he can, not merely with the means at hand, but with the tissues at hand; and here so long as he can control what may happen

outside the body he has done his full moral and legal duty. On the other hand, in any case where patients deliberately come under observation, and where time may be afforded it is the surgeon's bounden duty, bearing in mind a summary of the conditions which notoriously conspire upon the one hand to afford protection and on the other to lower vulnerability, to so order the habits, the diet, the surroundings, and the preparation of his patient as to restore his tissues and vital fluids, so far as possible, to their normal condition before he interferes with their functions with an operation.

A distinct, and as yet unworked, field lies before him who will study carefully and for a sufficient length of time the effect of anæsthetics, in increasing susceptibility and infection. This is a problem which must be worked out rather upon human patients than upon animals, since the conditions are so exceedingly different, most of the animals used for experiment being too relatively insusceptible, dogs notoriously so. I have for years cherished the opinion that anæsthetics affect all people to a greater or less degree in this direction; yet am not able to present to you any definite statistics or statements. Loss of blood is certainly a factor in lowering vitality, and in that complex condition of shock it must assuredly be that natural immunity is temporarily lowered. Equally important in my estimation are the auto-intoxications and toxæmias of which two in particular call for mention. The effect of sugar in the urine, or rather the effect of the condition which leads to its presence, is everywhere recognized; but I am more and more convinced that in the body condition which is most easily recognized by hyperacidity of the urine, and which is often a complication of uricacidæmia, oxaluria, etc., we have a grave and sometimes insuperable obstacle to ideal success after operating. The other condition to which I allude, is that which I usually speak of as intestinal toxæmia, and which relates to auto-intoxication produced by absorption from the contents of the alimentary canal of substances which ought not to be therein retained, nor allowed so to accumulate nor undergo chemical changes which shall permit such absorption. This condition is in a large measure represented by chronic constipation; and yet it certainly does occur in patients who have a regular habit of daily alvine evacuation. It is to be recognized by the hue of the skin, by the appearance of the tongue, often by the presence of indol or of indican and ethereal sulphates in the urine, and quite often by the diminished elimination of the fluid and mineral elements of the urine. It should be combated, if possible, by a careful course of hot air or Turkish baths, copious draughts of fluid, the administration of saline laxatives and of intestinal antiseptics, among which, in my estimation, the very best is a solution of mercury and arsenic in hydrochloric acid (given in the shape of mercuric chloride, dissolved in dilute muriatic or nitromuriatic acid, with the addition of liquor arsenosi chloridi). I have tried a great variety of the vaunted intestinal antiseptics, but have settled upon the conviction that some such mixture as this gives results far superior to any which can be obtained from salol, naphthaline, etc. If, in conjunction with these measures, we resort to exercise when it can be taken, to sunlight, which is always available, and perhaps to massage, by which circulation is quickened and equalized, excretion hastened and waste material dislodged and taken out of the system, we have done what we can to prevent infection.

And I have furthermore contended that since the inauguration of the so-called antiseptic era, and in our enthusiasm for combatting infection from without, we have lost sight of an important truth, which we cannot afford to disregard—the necessity of taking measures for the recognition of and the successful prevention of infection from within. Certain it is that in the majority of cases the infection from within is much the more liable to ensue and particularly in a class of cases where one is tempted, for one reason or another, to be less careful than he ought to be. I would give then this most important practical conclusion to my remarks, that only he who weighs judiciously the possibility or the imminent probability of the one or the other of these forms of infection is really capable of guarding

against them both, and that the best surgeon is he who will always take time when it can be afforded for the preparation of his patient for operation. In other words, I would remind you of Sir James Paget's too often neglected statement that we ought to examine patients for operations with fully as much care as we do for life insurance, and add to it that if this examination be so conducted, we shall often find that which will make us hesitate and prepare them before subjecting them to the enhanced risk of what may in other respects seem for their best good.

SOME CLINICAL USES OF GLYCERINE.

W. H. WALLING, M.D., PHILADELPHIA, PA.

To the late Dr. J. Marion Sims is probably due the credit of having introduced the glycerite vaginal tampon to the profession. The uses of glycerine in gynecology, however, are too well known to require more than this passing reference.

Glycerine as a surgical dressing in the form of the glycerite of starch, has had some advocates, but while its antiseptic properties are unquestioned, it has not come into use in surgery to any extent.

It has been used internally, in doses of from one to four drachms, in some forms of dyspepsia, but its value in this direction has not been sufficiently recognized, probably because other and more convenient forms of medication have superseded it. In conversing with a number of practitioners regarding such use, I find that many have abandoned its use in stomach disorders, hardly knowing why they have done so. They all agree, however, in attributing to glycerine, remarkable laxative properties, when suitably introduced into the rectum.

Just what peculiar action this drug has upon the mucous membrane of the bowel, in stimulating peristalsis, has not as yet been satisfactorily explained. It is conceded that it is not due to its hygroscopic properties, as other substances, having like properties, do not have the same effect. My own opinion is, that the effect is due to a combined action; to the rapid absorption and redistribution of the natural moisture of the parts, and a peculiar stimulation of the nerve centres.

Pure glycerine, when taken into the mouth, produces at first, a cooling sensation, rapidly followed by a feeling of warmth, unlike that produced by any other substance, followed by an increased flow of saliva, which flow continues for some time. If there be irritation of of the fauces, it is increased by the glycerine.

Injected into the rectum it produces the same effect in a modified degree, and a desire to go to stool results in every case, the time varying from five minutes to half an hour, or even more, in some cases. The effect, however, is certain, even if delayed.

Regarding the hygroscopic character of glycerine, I notice that at a meeting of the Philadelphia County Medical Society, held on Jan. 8th, 1896, (MEDICAL AND SURGICAL REPORTER May 23, pp. 663.) the statement was made by a prominent gentleman, that "Glycerine in the air does not attract water, and if applied to the dry skin it will not cause irritation; but if there are cracks in the skin it will draw water from the blood-vessels by osmotic action." Now glycerine does deteriorate upon exposure to the air, absorbing moisture from it, with a consequent lessening in specific gravity. For certain careful experiments, this would make a vast difference.

I noticed in one of the Journals, (The Medical Times,) that Dr. Heyman had used glycerine in renal lithiasis, on account of its property of dissolving uric acid, and also as it passes through the kidneys in an unaltered condition. He treated fourteen cases, with good results in ten, regarding this drug as presenting the most efficient means of treating this disorder. It must be remembered that

glycerine is an alcohol and as such passes unchanged, through the system.

Does glycerine, when used in the rectum, have any effect beyond that region?

My experience inclines to the view that it does affect, more or less, the whole of the large intestine. A glycerine suppository, properly prepared, is however, to be preferred to an injection of the pure drug. The latter is too stimulating, bordering upon irritation; too much is used, and it is too inconvenient in administration.

In the British Medical Journal for Dec. 1888, a case was reported, where a severe hemorrhage followed an injection of glycerine, in a patient suffering from typhoid fever. This would have not followed the use of a glycerine suppository. It emphasizes my statement, however, at to the effect of the drug, in the large intestine.

Various substances have been used as a vehicle for the glycerine, in suppositories, such as gelatine, soap, stearin, etc., and lately a substance called agar agar, a Japanese product, resembling gelatine. The objections to these substances is, that too much is required as a vehicle, only 50 per cent. of glycerine being available, sometimes not so much. Then again, this bulky vehicle acts as a foreign body, and frequently, such suppositories have been expelled without producing any other effect upon the bowel than that of their own expulsion. Hollow cones of cacao butter have also been used, but it would seem that the grease or fat, would be a decided hindrance to a proper action.

Constipation is one of the most difficult conditions to treat with success with which the physician has to contend. Pills, powders, syrups, elixirs and other preparations, whose name is legion, are offered for the relief of this distressing and intractable complaint. Many of these are good and give relief, and in some instances a cure is effected.

One very serious difficulty, however, with which we have to contend is, that in many patients the stomach is so very sensitive that any medication of sufficient strength to affect the bowels, given by the mouth, will not be tolerated by the stomach. In some such cases my former custom was to direct the use of enemas, or the flushing of the colon every night, or every other night. The difficulties attendant upon such treatment, and the objections to it, I shall not stop to consider. In many cases these are prohibitory, especially with children, as anyone who has attempted it with the little ones can appreciate.

In the place of the enemas, I have for some time, been using a suppository containing 95 per cent. of pure glycerine, made by Parke, Davis & Co. Notwithstanding the large amount of glycerine in this suppository, it keeps well, is of good consistence, and such is its shape, that of a double cone, that it is easily introduced and retained. One great advantage is that the suppository may be cut in half and yet retain its cone shape. This is especially desirable in the case of children, where only a small dose is needed. What the vehicle is I do not know, but it is admirably adapted to the purpose, and being so small in amount, only 5 per cent., it presents no disadvantages. Each suppository weighs about forty-five grains, consequently contains about forty-three grains of pure glycerine.

A few cases will illustrate the advantages of this form of medication.

Mrs. G.—, a chronic invalid, has been a sufferer from chronic constipation for many years, and being unable to take laxative medicines into the stomach, in sufficient quantity to affect the bowels, she had to depend upon enemas. At stated periods, however, she would be compelled to resort to calomel, that being to her the least objectionable in its effects of any drug, in order to unload the system. She suffered much at such times. Since placing her upon the glycerine suppositories she has experienced great relief, and only occasionally resorts to the enema, and this more from habit than necessity. This summer, when she left the city for the country, she left her fountain syringe at home, saying that the suppositories were so much more convenient, as well as being more effective.

I may add that at one time I divulsed the sphincter ani in this patient, hoping thus to overcome the constipation, but the effect was only temporary. The glycerine suppository has done more than all the other remedies combined,

and shows, after continued use, no lessening in effect. The dose does not have to be increased, and there is no discomfort or irritation in the parts.

Mrs. E.—, a patient somewhat in the same condition as the first case, only not in so pronounced a degree. This lady has been in the habit of resorting to the use of enemas because she objected to taking medicine. She very readily consented to substitute the glycerine suppositories for the syringe, and with the most happy results.

I could cite case after case in which I have used these double cones with the most beneficial results. In only one instance, so far, has there been a failure, and that was in a man troubled with a very sluggish liver. Of course not every case will be reached with these, or any other remedy or remedies, but a suppository containing the amount of glycerine that this contains, is an unobjectionable vehicle, and giving off the glycerine slowly and without irritation, will, in the great majority of cases, prove very satisfactory, and should replace the syringe in nearly every instance.

CURRENT LITERATURE CONDENSED.

The Abortion of Gonorrhœa and Treatment of Other Urethral Vesical Diseases by Hydrostatic Irrigations. [1]

Dr. Valentine submitted some modifications of his usual method of performing hydrostatic irrigations, mentioning: The substitution of a cast iron ring to hold the irrigator; a rubber tube with a lumen one-quarter inch in diameter made especially for this apparatus, which enables the operator to easily overcome any sphincter vesicæ; a stop-cock nearly thrice as large as its predecessor, which prevents cramping of the hand when frequent irrigations are required; and the enlargement of the shield's neck, which facilitates its being slipped over the nozzle when attached to the hose, and also attaches it firmly to the stop-cock. The apparatus, of which the above are modifications, was fully explained in a paper entitled, "The Technique of Urethral and Intravesical Irrigations", in the *Clinical Recorder* for February, 1896.

Dr. Valentine thinks the difficulty of obtaining statistics of gonorrhœa is very great, and its serious nature far too lightly viewed by the laity. Of those cases which he has observed from the beginning of the muco-serous discharge, in which gonococci were present, every one of these entirely recovered within thirty-six hours under irrigation, and of those in which the discharge had grown distinctly purulent, when not complicated, all have recovered within ten days. Chronic cases, which had lasted for months and years, recover in varying lengths of time, and in one case (that of a physician who had persistently treated himself for twelve years), the copious, yellowish-green blood streaks discharged grew watery in two days, the gonococci disappeared in five days and the discharge was entirely gone in eight days.

The following is a method of treatment employed: "After the discharge ceases the patient is not treated for a week or ten days when, no discharge reappearing, he is ordered to drink at least twice the quantity of beer to which he was accustomed. No discharge resulting, after another lapse of ten days he is given a strong irritating injection of nitrate of silver. If the resultant discharge, which lasts from eight to thirty-six hours, contains no gonococci all restrictions are removed, except that the patient is requested to bring the next seminal emission resulting coitus condomatus in the same condom. If this contains no gonococci, and anterior and posterior urethroscopy show a healthy urethra, the patient is discharged."

According to statistics compiled by Berthold Goldberg of Cologne, of cases treated by systematic intravesical irrigations, 60 per cent. recovered in less than ten days, 30 per cent. in from two to three weeks, and 10 per cent. mis-

[1] Dr. Ferd. C. Valentine, New York City, Section of Surgery and Anatomy, American Medical Association, Atlanta, Ga., May 8, 1896.

chanced. One-half of this 10 per cent. was attributable to avoidable causes, disobedience of patients, repeated excesses, etc., while the remaining 5 per cent. distinctly resisted treatment. Goldberg's experience, and that of others, leads him to conclude that carefully systematized irrigations with potassium permanganate, are indicated when gonococci are present; are contra-indicated in acute inflammatory conditions; permanently remove the gonococci in 95 per cent. of far more than half the cases within one to two weeks, in any stage of the disease; are reliable as a means of aborting gonorrhœa; the successes are due to coincident mechanical and chemical effects.

Dr. Valentine agrees with Goldberg in all but the second conclusion, as he thinks that the pain of an acute local inflammatory condition could easily and quickly be overcome by an injection of cocain. Although the author follows Oberlaender's methods of treating gonorrhœa, he never fails to add irrigations, as this combination invariably yields the most satisfactory results. If this method is correctly followed, the disease is cut short; pain is stopped; no complications ensue; no hand injections are used, with their unreliability; no drugs are given by the stomach, and lastly, the patient cannot peddle prescriptions.

Dr. Valentine mentioned, as the most important advantage of his method, the fact that a larger proportion of complete cures have resulted from it than from any other method with which he is acquainted, and concluded by referring to the relation various diseases bore to the use of his apparatus.

He says he has never seen a case of catheter fever after use of the apparatus. Cowperitis, folliculitis and seminal vesiculitis do not contra-indicate irrigations. In cystitis and posterior urethritis, irrigations are exceedingly well borne and yield excellent results. In epididymitis and orchitis, if the case is one-sided, strap the testicle and irrigate at once. If both testicles are involved use Wossidlo's method, which consists in applying the galvanic current two to eight milliamperes for from three to fifteen minutes daily, after which apply suspensory bandage and irrigate at once. Irrigations render surprising results in neurasthenia. Prostatitis does not contra-indicate careful irrigations of the anterior urethra, and irrigations should be used in retention. Patients having secondary syphilis have not been found to bear the irrigations badly. The Oberlaender method combined with irrigations yields brilliant results in strictures. Tuberculous cases when not very low or in fever, can be treated as other patients.

The Treatment of Cancer of the Rectum.[2]

Dr. Lewis H. Adler, Jr., of Philadelphia, stated that the four recognized operations for cancer of the rectum were, extirpation, colotomy, posterior linear proctotomy and curettage. He called particular attention to the value of curettage in those cases of cancer in which the disease is within the lower three inches of the rectum, and its character of such nature as to allow of its more or less complete removal by the curette. In certain cases the combined operations of colotomy and curettage afford the patient more relief than where one or the other procedure is adopted singly. Under any plan of treatment in the majority of cases only temporary relief can be obtained. The indications for the operative treatment of rectal cancer may be summarized as follows: Extirpation is to be considered only in those cases in which the disease admits of the hope of obtaining a permanent cure; colotomy, when the rectum is involved above the lower three inches of the bowel and the disease has produced an appreciable obstruction; curettage or posterior linear proctotomy, or the two combined, may be employed in those cases in which the disease occupies the lower three inches of the rectum.

Gastrostomy for Stricture of Œsophagus, Sbanljow-Frank Method.[3]

Dr. Hunter P. Cooper, Atlanta, Ga., related the history of a young man who, one year ago, took one swallow of pure nitric acid by mistake, causing corrosion of the entire mouth, lips and œsophagus.

[2] Section Surgery and Anatomy, American Medical Association, Atlanta, Ga., May 7, 1896.

[3] Section on Surgery and Anatomy, American Medical Association, Atlanta, Ga., May 8, 1896.

The mouth and lips healed about three weeks after the sloughs separated. The author first saw the patient in January, 1896, and several months previous to this an increased difficulty in swallowing was appreciated, but at this time this symptom is considerably worse and the feeling exists that small particles of food are stopped before reaching the stomach, evidently low down in the œsophagus. Liquids could be swallowed slowly and with difficulty, but half an hour was occupied in drinking a glass of milk. For two or three days at a time, swallowing is impossible and then relaxation occurs. When first seen, the pulse and temperature were normal, the tongue was clean, the appetite good, and the pulse regular. An examination of the œsophagus revealed three strictures, seven, seven and a half and eight inches from the edge of the incisor teeth. No more were discovered until the instrument had passed thirteen and a half inches down the œsophagus when an obstruction was met which would not allow any instrument to pass. The largest instrument that would pass the stricture seven inches from the teeth was of the size of a twenty-two French urethral bougie, and nothing would pass lower than thirteen and a half inches. Gastrostomy was decided upon, and the Sbanijow-Frank method was selected, as follows: An incision is made about a finger's breadth below the costal cartilages on the left side over the stomach. The first incision, three and a half inches in length, goes down to the muscles, and the muscles are then divided in the direction of their fibers by blunt dissection. The peritoneum is opened in a line parallel with the edge of the costal cartilages. The stomach having been withdrawn from the wound, it is drawn strongly outward by a ligature passed through its walls and traction is then made on this ligature by an assistant until a cone of the stomach three or four inches long is drawn out of the abdominal incision. While the assistant holds this cone in position by means of the ligature, the base of the cone is sutured to the parietal peritoneum all the way around. The next step consists in making an incision through the skin, superficial fascia and areolar tissue down to the deep fascia. This incision is placed one inch above the margin of the costal cartilages and its direction is parallel to that of the primary incision. By blunt dissection communication is made underneath the skin and superficial tissues between this incision and the primary incision, and through this communication, the apex of the cone formed by the stomach is drawn. The wall of the stomach is then sutured to the skin and the stomach is opened. The primary wound is closed, the muscles being sutured seriatim and the skin incision sutured last. The advantage of this plan is that it brings the stomach through the abdominal wall in an oblique direction, and a part of the stomach is included between the edge of the costal cartilage and the skin, forming a sort of valve. This device prevents leakage of the contents of the stomach during digestion, and is a great advantage over the old method of making a direct communication between the stomach and the abdominal incision. The subsequent history of the case was uneventful, the patient gaining in flesh and strength and being perfectly nourished by means of feeding through the artificial opening. Since the operation a small bougie has been passed eighteen inches from the edge of the teeth. No. 15 on the French urethral scale was passed twenty inches and No. 22 of this scale has been passed through the strictures at seven and seven and a half and eight inches from the edge of the teeth. On account of the large amount of cicatricial tissues present, it is doubtful whether it will be possible to thoroughly divide it so that recontraction will not take place. The valve does its work very well and there is practically no leakage at all. A little gastric juice exudes from the opening, but none of the stomach contents.

Technique of Removing the Appendix Vermiformis Cæci.[4]

The author described the method of preparing the patient for the operation, spoke at some length concerning the incision to be made, and considered that the statement of Dr. Morris, "An inch and a half and a week and a half," con-

[4] Report of 100 cases, by Dr. M. M. Johnson, of Hartford, Conn., Section of Surgery and Anatomy, American Medical Association, Atlanta, Ga., May 7.

tained a sound surgical principle. He also strongly advised as little manipulation as possible of the intestines. In chronic recurrent cases he makes an incision one and one-half inches long directly over the appendix, and when the peritoneum is reached a cat-gut suture is passed through it at the upper angle of the incision, so as to prevent its retraction. In finding the appendix, he passes the thumb and index finger through the incision, seizes the colon, which he draws through the incision until the appendix is brought into view. When the cæcum is surrounded with a pus sac, a perforated and sloughing appendix is usually found and should be removed. It should be a fixed rule never to close up the incision without finding and removing the appendix. The treatment of the stump resolves itself into the treatment of an intestinal perforation, and the surgical rule for the treatment of this condition should not be violated in the treatment of the stump, although it is stated by Dr. Robert H. M. Dawbarn, of New York, in the May number of the *International Journal of Surgery*, that there are eleven different methods employed in its treatment. While these methods are popular, they are at variance with correct surgical principles, because they leave a point of infection in the peritoneal cavity which will sooner or later prove a serious complication. By making gentle traction on the cat-gut suture passsd through the peritoneum at the upper angle of the incision, the retracted peritoneum is brought into view, and with a Martin needle loaded with No. 2 catgut a stitch is easily passed through the free borders of the peritoneum and the edges drawn together. By removing the original suture and making gentle traction on the last stitch, enough more of the peritoneum is drawn into the incision to take another stitch and this is continued until the peritoneal incision is closed by a continuous cat-gut suture. The transversalis fascia and transversalis and internal oblique aponeurosis is secured by a continuous suture separately. The skin is put hard on the stretch by a tenaculum placed in the angles of the incision and the edges are united with No. 0 (zero) cat-gut in a fine needle. The author has never had a case of hernia following this method of closing the incision. Sterilized catgut is used throughout the entire operation. There is great diversity of opinion as to the course of procedure in regard to multiple pus sacs and other complications occasionally met with. Gilbert Barling states (*British Medical Journal*, page 1254), that "if the vermiform appendix is left, little anxiety need be felt as to future attacks of appendicitis, as they rarely occur." This means that little anxiety need be felt when dead, decomposing, highly infectious animal tissue is left in the abdominal cavity. A more dangerous opinion could not be expressed, and the author related a case in which Barling's opinion was followed and in which a second operation was necessary. Upon opening the abdomen, a perforation in the cæcum was observed and many strong bands of adhesion were present. The appendix was in a gangrenous, highly infectious condition, and was removed, the patient making a good recovery. With regard to the time for operation, this should be decided from the stand-point of the best interests and safety of the patient. In the author's opinion, operative measures should be an early consideration rather than the last resort. Of 100 operations performed by Dr. Johnson, ninety-eight resulted in recovery and two in death, of which number, sixty-four were males and thirty-six females.

The story is told in *La Médecine Moderne*, of a seamstress of Berlin, who was in the habit of allowing her dog to lick her face. She was attacked one day with a severe inflammation of the right eye. Oculists were consulted, but their treatment was unsuccessful, and owing to the fact that inflammation of the left eye was beginning the right eye was enucleated. In the enucleated eye was found a tænia echinococcus, which the dog had probably picked up while licking some less pleasing object than his mistress's face. The danger of the transmission of parasites by dogs who are well-known to be indiscriminate in choosing objects for the exercise of their tongues, to the hands and faces of their masters, would seem to be a great one. It is surely remarkable that accidents of the kind related happen as rarely as they do.

TRANSLATIONS.

MEDICAL PRACTICE ABROAD.*

(Formerly Therapeutic Suggestions from Foreign Journals.)

Massage in Gynecology.

Ponomareff (*Vratsch. St. Petersbourg*, 1896) used massage for three years in different troubles of the female pelvic organs. In imperfect involution of the uterus after confinement, and especially after an abortion, massage diminishes the size of the uterus rapidly and prevents the hemorrhages as well as the development of chronic trouble. It is also indicated in chronic metritis before induration occurs, but accompanied by endometritis and dysmenorrhea; and in vicious position of the uterus and ovaries. The massage acts in these cases favorably on the muscles of the uterus and the ligaments, and consequently permits correction of the position of the pelvic organs. Chronic peri- and parametritis are favorably influenced by massage; the exudates are reabsorbed, the adhesions become softer and very often disappear.

Massage has a very great value as a means of gynecological diagnosis; for instance, when the limits between the body of the uterus and a benign tumor are not very evident. By diminishing the congestion of the uterus, massage gives a chance for more exact diagnosis before surgical intervention.

Massage is contraindicated in pregnancy (normal and extra-uterine), malignant tumors of the pelvic organs, all diseases accompanied by suppuration, blennorrhagia of the tubes, blennorrhagical peri-salpingitis, etc., and in acute febrile troubles.

The manipulation indicated by Ponomareff is of the most ordinary: One finger placed in the vagina or rectum is immobile and fixes the diseased organs. With the hand placed upon the abdomen, friction is made upon the sick part through the abdominal wall, which must be relaxed as much as possible. The patient keeps a dorsal decubitus and the knees are bent. This operation has to be done for five or ten minutes every day or every other day.

Gallobromol.

According to Stein (*Centr. f. d. ges. Therapie*, April, 1895), gallobromol is a gray-red, crystalline powder, easily soluble in hot water, alcohol and ether. Its solution has an acid reaction. Lépine employed it in doses of 0.5 to 15.0 grm. for nervous diseases and attributes to it a sedative action analogous to that of the bromalkalies, but it has not the depressing action of the last. In chronic chorea, it renders good service, while in epilepsy it takes a place after bromalkalies. Large doses are harmful. Lépine recommends 10 grm. of gallobromol in 120 grm. (℥iv) of water with 30 grm. (℥j) of Syr. Rubium, a tablespoonful two or three times a day. He reports that four cases of neurasthenia, were well influenced; also two cases of tetanus. In one drunkard nervousness and insomnia have been benefited. In one case of epilepsy he did not succeed, while with bromalkalies he did. The cephalalgia of a young girl disappeared through the use of gallobromol. He recommends the remedy as sedative, hypnotic and antispasmodic. Formulæ:

℞

Gallobromol	5	0 (℥iss).
Aq. dest.	120	0 (℥iv).
Syr. rub. td.	30	0 (℥j).

Sig. A tablespoonful every two hours.

As hypnotic:

℞

Gallobromol	3	0 (ʒii).

Ft. pulveris.

Sig. Take at bedtime in two parts.

Treatment of Gout.

Dr. Le Gendre (*Paris*, 1896) thinks that gout is a general disease, constitutional in the truest sense of the word, which is the result of a capital loss of nutrition. This loss of nutrition brings an imperfect elaboration of aliments and an incomplete oxidation of azotic materials introduced in the organism. Piperazine is now largely used in

treatment. Its formula is $C^{11}Az^2H.^{10}$ Being crystalline, colorless and soluble in any proportion in water, it gives in combination with uric acid a urate, which is soluble in forty-seven parts of water, the most soluble obtained, that of lithium requiring twice as much water. Swallowed or injected subcutaneously, piperazine and its chlorhydrate give a diminution of the urates found in the urine and a proportional augmentation of the urea. It passes through the body without undergoing a decomposition, a necessary condition for dissolving uric acid. Schweininger Wittzach praises the drug in acute and chronic gout, and Biesental says that it surpasses its congeners in the struggle against the excess of uric acid. The drug has a beneficent action on tophi, which decrease rapidly, not only because this substance dissolves uric acid, but also disintegrates the albuminoid materials which are organic supports for these concretions. It can be administered internally in doses of one grm. (gr. xv).

A New Adulteration of Milk and a Speedy Means to Recognize it.

Dr. Deniges (*Bull. de la Soc. de Pharm. Bordeaux*): Two samples of powders employed by farmers for preserving milk were composed of neutral potassium chromate and a third of one part of potassium bichromate and two parts of neutral chromate. He also examined a sample of milk, to which 0.30 gr. of neutral chromate had been added. Two gr. (ʒjss) are sufficient to keep about fifty liters of milk from souring. One c.c. of milk is mixed in a tube with the same volume of a solution of nitrate of silver (1½-2 p. 100). If, after shaking, the mixture becomes of a yellowish-red or red to a clear yellow color, the milk contains alkaline chromate or bichromate. If the milk had undergone fermentation, the addition of a small quantity of pure calcium carbonate, in powder, or a crystal of sodium acetate would favor the reaction.

Treatment of Endometritis with Steam.

In the treatment of endometritis especial effort is made to destroy the altered mucous membrane of the uterus. The treatment with steam is lauded by Snegiroff, (*Med. Mod.*, April, 1896), as securing this result more readily than with caustics. A speedy application of steam at a temperature below 100° C. produces a superficial cauterization of the mucous membrane; a prolonged application (one hour and a half) of an overheated steam (120° C.) causes a burn. In case of chronic blennorrhagical endometritis, the more energetic treatment should be used, while in less serious cases one superficial application is sufficient. He had never had any accident and the treatment is not particularly painful, if the apparatus is good and the physician is careful. The apparatus is composed of a receiver warmed with a lamp of alcohol and provided with a thermometer; the steam passes from the receiver through a rubber tube to which is fastened a metallic tube through which the steam passes into the uterine cavity and which is fastened to an ordinary uterine sound. The apparatus is placed on a small table at the right of the physician. An inferior valve is introduced in the vagina, which has been previously washed, and this can be maintained in place by the weight of its handle. The superior valve introduced is maintained by the patient's right hand. A sound is introduced in the uterine cavity, its end being kept in place by the left hand. Especial attention must be paid that the sound does not touch the vaginal walls, as it may cause very painful burns. While the steam is developed in the receiver the metallic tube is adapted to the sound and the steam passing through acts on the mucous membrane. The membrane which surrounds the external os becomes white very rapidly. After about a teaspoonful of brownish fluid, similar in appearance to an extract of meat, exudes from the neck of the uterus, the sound is removed and the vagina is dressed with iodoform.

Paraldehyde.

High doses of paraldehyde can be prescribed to produce sleep without fear of danger. (*Med. Mod.*, March, 1896).

A woman aged eighty-one, melancholic, with inclination to suicide was given more than three gr. (ʒj), once even twelve gr. in twenty-four hours during several months. She recovered without any ill effects.

A girl, nineteen years old, epileptic from childhood, began to have more frequent attacks. The treatment relieved the patient, but later the attacks recurred and coming only once a week preceded by a prolonged aura. On awaking in the morning she would feel badly, the uneasy feeling continuing until noon when the convulsions would begin. Naturally an effort was made to produce sleep in order to combat the aura, and to avoid the danger of opiates, paraldehyde was administered, 0.75 (gr. xv) being sufficient to produce sleep in five minutes and upon awakening she felt relieved. By this treatment the intervals between the fits were increased to a month and the general health was improved. For more than a year she has had no fits, except once, when paraldehyde was administered. It has never been given in doses of over 1.50 (3ss).

Treatment of Dysmenorrhœa Membranosa.

According to (*Méd. Mod.*, March, 1896), the therapeutics of this class of dysmenorrhœa concern the treatment of the crisis and of the cause of the disease. For the pain have recourse to ordinary composing remedies, among which are especially indicated: Tinct. cannabis ind., sodium salicylate (1-8 gr. gr. xv-3jj) per die, enemata of camphor, chloral, suppositories of opium, of antipyrin, etc. All these remedies are very often effectual, but none of them is able to give such a good result as hypodermic injections of morphinum chlorhydrate with a dose of 0.01 or 0.02 in the morning and in the evening until the expulsion of the membranes takes place. The injections of morphine permit the patient not only to pass the menstrual period without suffering, but it is a very curious fact that the following crises are lessened or even disappear after a certain number of menstruations under this treatment. Some physicians recommend warm vaginal douches (48° C.), but their employment is possible only two or three days before the menses.

In the intervals between the menses the physician should attempt to remove the cause of the trouble. In case of a stricture of the cervical passage have recourse to the incision recommended by Sims or to a progressive dilatation by means of bougies or laminaria tents, previously made aseptic. The alterations of the mucous membrane of the uterus should be treated by cauterization or by curetting. Misplacements of the uterus, fibroma, and other tumors must be treated according to the case. Disease of the appendages are often the cause of dysmenorrhœa; and ovariotomy has been proposed by Baltey, Hegar and Lawson Tait in order to prevent hysteria.

Treatment on these lines have sometimes been sufficient to cure the painful phenomena, they gradually lessening and sometimes disappearing spontaneously. Sometimes marriage and fecundation, in the cases where the accidents were due to an arrest in the development of the uterus have produced a cure. Warm foot-baths, vaginal irrigations of 48° C. and emmenagogues are often efficacious.

The treatment of the diathetic state of the patients is of high importance. There is much confidence in the use of iodides and of the preparations where iodine is combined with tannin. The last is employed in lymphatism or scrofula, in slowness of development, all of which are cases where membranous dysmenorrhœa is frequently seen. Hydrotherapy and thermal stations, also electricity, are useful in some cases. Cod-liver-oil, arsenic and alkaline treatment are very useful.

Therapeutical Administration of Guaiacol.

Guaiacol can be administered in capsules or pearls, in combination with tinct. cort. aurant, or tinct. gentian., or in emulsion with acid. acet., spiritus juniperi and syrupus. (*Deutsche Med. Zeitung.*) In doses of one minim to five or ten it is very efficacious for strumous and tuberculous children. The best method of administration to children is in milk, immediately after meals. In catarrhal inflammation of the bronchi, emphysema, bronchiectasis and generally in the diseases with fetid spitting, it is as useful as creosote without the latter's irritating effects. Hypodermic injections of guaiacol may be used, a solution of the drug in a neutral sterilized oil being recommended.

Guaiacol acts as antipyretic, when rubbed upon the surface, a lowering of 40° in temperature having been observ-

ed, due to absorption by the skin; not from inhalation by the lungs. Two gm. (ʒjss) showed its antipyretic influence. The absorption by the skin is so rapid that one-fourth of an hour after the application, the guaiacol was found in the urine. It also has an influence on the secretions of the skin, mucous membranes and kidneys, and in some cases of rheumatism it has an anodyne effect.

Treatment of Goitre and Basedow's Disease With Thyroid Extract and Thyroid Gland.

The thyroid products (*Deutsche Med. Zeitung*) have a notable physiological influence on the nervous and circulatory system manifested by headache, dizziness, pain in other parts of the body, weakness, heat in the face, and acceleration of the heart-beats. Some of these symptoms occur when a daily dose of a half or a whole thyroid gland is administered, and the large doses are continued, alarming symptoms appear, and even death has occurred (12 grains). The dried thyroid gland of animals has the same effect as the extract, and the internal treatment is as efficacious as the hypodermic. Internally the dried thyroid substance can be used in doses of two grains three times a day, which can be increased to twice or thrice as much without any ill effect. In some cases the treatment has a certain influence on the weight of the body, but this is different in different people, and even in the same person at different times. As to myxœdema, the result of this treatment is remarkable, when it is administered for a prolonged time with intervals. In Basedow's disease the treatment with thyroid substance considerably diminishes the goitre, but has no notable influence on exophthalmus and aggravates the heart symptoms. Here it ought to be used with great caution. In many cases of goitre the tumor is diminished. Dr. Fletcher observed recovery in 75 per cent. of the cases treated.

Intravenous Sublimate Injections.

Dr. Porcelli (*La Puglia Medica*, October, 1895), observed in 100 intravenous injections of sublimates, a prompt effect even in the most grave cases of syphilitic manifestations. One patient who received sixty hypodermic injections and who, during treatment, was affected with iritis, was relieved by five injections. These injections are well supported, and are preferred by the patients to the painful injections under the skin. From a dose of one cgrm. Dr. Porcelli had never observed any trouble, such as an embolus or alteration in the kidneys. Also in fifteen intravenous injections of one cgrm. each no digestive trouble has been observed.

The Treatment of Burns.

The *Lancet* for February 22d contains a report of a recent meeting of the Leeds and West Riding Medico-chirurgical Society at which Mr. W. H. Brown read a paper on this subject. At the present day, he said, the treatment of burns was unsatisfactory. The death-rate from burns of all degrees in the Leeds General Infirmary was identical with that of twenty years ago.

The causes of death were shock and septicæmia, and the author recommended morphine to allay the former and to allow the parts to be carefully cleansed and dressed. To keep the patient warm and to protect the burns from the air, he advocated the continuous use of a warm bath rendered antiseptic with boric acid. He thought that carbolic acid and mercury were too easily absorbed to be used. To lessen or to prevent septicæmia, he suggested that, where it was possible, after the administration of ether, the surgeon should cut or scrape away the tissues that appeared to be destroyed beyond a chance of recovery, and then apply an ordinary surgical dressing. At present, Mr. Brown said, he used eucalyptus oil, which was not toxic or irritating.

Mr. J. W. Teale stated that he had used chloroform when he applied the dressings, and thought that it decidedly lessened shock.

Mr. Pridgin Teale thought that carbolic acid combined with the sloughs and formed a kind of protecting covering which would be comparatively harmless.

Dr. Chadwick and Dr. J. B. Hall were strongly in favor of the method employed in Vienna, that of using continuous warm baths throughout the treatment.

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Editorial Staff:
A. L. BENEDICT, A.M., M.D. SAMUEL M. WILSON, M.D.

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PHILADELPHIA, SATURDAY, JUNE 6, 1896.

EDITORIAL.

GREEK, LATIN, OR ENGLISH?

At frequent intervals our attention is called to some new polysyllable proposed to describe an operation, an instrument, or some discovery in physiology or chemistry. We must confess to stammering a little over such terms as colpo-perineorrhaphy and cholecystenterostomy, and to being tempted to change the arrangement or to translate such terms as hyperchlorhydria. Yet we would not go to the other extreme. Better, a thousand times the many-lettered but one-worded hæmocytometer than the Germanic compound blood-body-count-apparat.

Let us consider for a moment, the general usefulness and appropriateness of the cumbrous nomenclature with which some are trying to saddle medical science. Most of the newer terms are derived from the Greek. How many of us are Greek scholars? The fact that men of sufficient standing in the profession to make themselves heard, have perpetrated and perpetuated such errors as spermatozoœ, pubeotomy, vulvitis, anacidity, ought to be a final answer. The majority of our profession are not linguists; a few know why catarrh is spelled with an rrh, still fewer, with much consultation of dictionary and mental perspiration, can translate simple Greek or manufacture a new technicality. Possibly a dozen of the entire American profession could appear to advantage in an assemblage of language

scholars. This being the case, why is it not a vulgar affectation to strive after a nomenclature that most of us cannot remember except as a matter of rote? Nor can it be urged that the higher requirements of the future will effect a radical change. The average doctor of a decade hence will undoubtedly be better educated, as well as better trained in his professional studies, but the tendency of educational institutions, as well as of professional schools, is away from scholasticism and toward the scientific and practical. Under these circumstances, it seems pedantic, almost discourteous, for the meagre number of linguists in the medical profession to continue the present tendency toward an elaborate nomenclature of Greek derivatives. But unnecessary use of long words is not by any means a proof of high education, and a little study of medical technicalities strengthens the suspicion that the medical pedant is not a scholar. The man who first used the term endo-cervicitis to humble his brother, who spoke of inflammation of the os; the one who first hedged in the dispute between pelvic cellulitis and pelvic peritonitis by saying peri-uterine inflammation; the first surgeon to speak of appendicitis; the first chemist to run two dissimilar words together into urinalysis may have been pleased with the bigness of the words which they used, but they have imposed on the profession a nomenclature of not much higher order than the grandiloquent utterances of the proverbial ignorant negro.

Conciseness of thought requires technical expressions; it is simply a matter of good judgment and good taste to determine where the effort to put every conception into one word, shall cease. We may admire the mechanical ingenuity of the surgeon who has a complicated instrument for each phase of operative work, but we place more reliance on the man who is content with scalpel, scissors, forceps and sound. And yet we must admit that some of the complicated saws, tenaculá and clamps have expedited difficult manipulations, and that a single polysyllable may be more convenient than a number of short words. In either action or description, the golden mean must be observed.

Rather than distort some Greek word from its original meaning and form, the craving for technicality might be gratified by returning to the old precedent of using Latin terms. "Which do you prefer, cœliotomy or laparotomy?", we once asked an editorial friend. "Why not say abdominal section?", was the eminently sensible reply. The ease with which Latin technicalities can be converted into Anglicized forms (sectio abdominalis, abdominal section; extensor longus digitorum, long extensor of the digits, etc.,) allows a convenient compromise and an easy understanding between those who yearn for the classics and those who prefer modern English. So far as vocabulary is concerned, Latin is no more a foreign tongue than Anglo-Saxon. The vast majority of Latin words are to be found, shorn of their endings, in an unabridged English dictionary, and the facility with which the masses use and combine Latin roots, shows that Latin derivatives are quite in accord with the spirit of our language. Saxon words, referring to secretions and parts of the body, which are mentioned with any degree of shame, have become obsolete, except when vulgarity is directly aimed at. The terms used in describing machinery, and the labor of manual occupations, show a decided tendency toward Latin rather than Saxon derivatives, so that a prejudice against the former language rests on nothing but historic data.

Especially to be deprecated are the

mongrel Greek words used to describe chemical and physical conditions not yet generally recognized nor well enough understood to be made the basis of any classification of conceptions. Hyperglycæmia, azoturia and many others introduced in connexion with studies of diabetes; indicanuria, anacidity, and many others with examinations of the gastric juice; oligocythæmia and similar forms with examinations of the blood are samples of technical terms which do not fill a want. It is certainly necessary for the careful student to know the quantitative results which such terms imply but why state such facts in Greek—especially if one does not know enough to do so correctly—? Why not say in plain English that this or that acid or other chemical is in excess or deficient, that the red-blood corpuscles are too few, and, similarly, express in a few English words any fact that some delight to put into more or less mangled Greek? When a point is thoroughly understood and its general recognition and frequent mention require a concise technicality, then, and not till then, should the needed word be coined. But not every ignoramus should be trusted with the minting of words. Roughly moulded terms, barbarously alloyed from different languages, should give place to those of artistic form, carefully prepared by competent students and the new terms should be put in circulation through the channels of the medical press.

AN ACTION FOR LIBEL AGAINST THE BRITISH MEDICAL JOURNAL.

A case of unusual interest to medical men generally was tried at the Manchester Assizes on Saturday last. A medical practitioner residing in Blackpool is connected, but without payment on either side, with two hydropathic establishments in that town. His name appears on large plates at the entrances and on the tariff bills. These facts were submitted to the editor of our contemporary, the *British Medical Journal*, for comment and an expression of opinion with respect to the ethical aspect of the case. The view given was that the exhibition of the plates was wholly incompatible with the honor and dignity of the profession. This was the libel complained of. For the planitiff, Drs. Renaud, Collins, and David Little gave evidence to the effect that no ethical rule had been broken. While for the defendant, Sir Dyce Duckworth—whose testimony was wholly discounted by his admission, that his name, the hospital with which he was connected, and his private address appeared in an Insurance prospectus widely circulated, and placed in numbers upon public counters—Dr. Ward Cousins and Dr. Bateman stated that Dr. Kinsbury had broken an unwritten law of the profession. The judge, in summing up, apparently regarded the statement of which complaint was made as one of fair comment. But the jury were asked to consider whether there had been misstatement and comment which was unfair. They arrived at the latter conclusion, and awarded the plaintiff £150 damages. In reviewing the evidence and the facts of the case, it appears to us that the matter resolved itself into one of whether complaint had or had not been made by the local practitioners against their *confrère*. The *British Medical Journal* said that the practitioners had complained, and this is borne out by the fact that the editor was asked to express his opinion on the case. But at the trial it was apparently impossible to obtain any evidence in support of this statement from the other practitioners in Blackpool, from which we are led to the conclusion that at the last moment they left the editor of our contemporary in the lurch. —*Med. Press and Cir.*

Preserve and treat food as you would your body, remembering that in time food will be your body.—*B. W. Richardson.*

SOCIETY REPORTS.

THE AMERICAN SURGICAL ASSOCIATION.

ANNUAL MEETING held at the Detroit College of Medicine, May 26, 27 and 28, 1896.

President LOUIS MCLANE TIFFANY, of Baltimore, called the meeting to order, and read an address, entitled "THE OPERATIVE TREATMENT OF TRIFACIAL NEURALGIA."

DR. S. J. MIXTER, Boston, read a short paper in discussion of the subject, which was then thrown open for general discussion.

DISCUSSION.

DR. W. W. KEEN, Philadelphia, was very much disappointed to learn that the mortality of operations for the relief of trifacial neuralgia was ten per cent. He had two deaths out of nine cases, one of which was due to sepsis and was avoidable. The high mortality being due, in his opinion, to the fact that the operation had been done by so many different operators, he thought that special operations should be reserved for those who have had special training. In three of the nine cases mentioned, trouble was experienced with the cornea, but in no case was the eye lost. His method of dealing with corneal ulcer is to sew the lids together at the margin, so as to prevent the opening of the eye; take a circular piece of rubber plaster, cut a circular hole in the centre, a little smaller than a watch-glass; insert a watch-glass in the hole thus made, and place this shield over the eye, the non-adhesive surface being next to the eye. Although the rubber plaster does not occlude the whole space, the inside of the watch-glass is always moist.

DR. J. EWING MEARS, Philadelphia, asked whether the President was clear in his own mind that the lesion exists in the Gasserian ganglion. If his experience with the operation upon the Gasserian ganglion demonstrates that the relief from pain is permanent, Dr. Mears considered it right to feel the real lesion had been discovered.

DR. GEORGE RYERSON FOWLER, Brooklyn, stated that in one of his cases there was a recurrence of pain, although he was absolutely certain that he had removed the ganglion. Postmortem showed the existence of a neuroma upon the stump in that portion which occupied the foramen retundum. Dr. Fowler fully agreed with Dr. Keen as to the necessity for keeping the eye protected, and mentioned an illustrative case. Concerning the sclerotic changes in the vessels, it may be that these are at the root of the pathology of these cases. Dr. Fowler referred to a case of Dr. Morton, of Philadelphia, in which Meckel's ganglion was positively removed, yet the pain returned with all its former violence in less than two years, when ligation of the common carotid gave the man permanent relief. He mentioned other cases in which ligation of the carotid had produced excellent results. In one of these there was a deviation of the tongue toward the side operated upon. In this case the patient was unable to straighten the tongue. Dr. Fowler referred to one case which died during an epidemic of sepsis, and stated that he saw no reason why there should not be epidemic sepsis as well as small-pox and scarlet fever.

DR. PARMENTER mentioned the case of an elderly woman with facial neuralgia, and also a small aneurism of the external carotid, in whom ligation of the common carotid afforded complete recovery. Also a case in which he operated successfully, in a man who had been subjected to three previous operations.

DR. H. S. WEEKS doubted if a surgeon was justified in resorting to intra-cranial operation before an extra-cranial had been done, in view of the large mortality. His plan of operating is to trephine through the ramus of the jaw, seize the inferior dental nerve and pull it away. He considered this method much better than cutting.

DR. H. P. DANDRIDGE mentioned a case on which he had operated two and a half years ago, since which time the man had been relieved from pain, but there was marked deformity of the face on account of atrophy of the muscles. There was also a small sinus leading down to dead bone.

DR. CHRISTIAN FENGER preferred the extra cranial operation, as he considered it less dangerous. He called attention to the fact that the mortality from ligation of the common carotid was eighteen per cent.

DR. JOSEPH RANSCHOFF did not think ten per cent. a very high mortality under all circumstances. He considered if all the cases were included, it would be nearer fifty per cent. In his opinion, the lesion is not located in the Gasserian ganglion, but is a central affection.

DR. ROBERT ABBE said the members should not be daunted by a mortality of ten per cent., as in the next hundred cases it would be much less. In his opinion, preference should be given to an anterior operation in the first place. Now that we know what to steer clear of, with the improvement of sepsis and the avoidance of operating on old people, the mortality should be considerably lessened.

DR. W. W. KEEN had omitted to mention two methods of medical treatment which had been of great service. One, recently suggest-

ed by Dr. Dana, of New York, was giving massive doses of strychnia; and the other was suggested by Esmarch, who has spoken of the value of purgatives.

DR. MAURICE H. RICHARDSON considered that the operations could be taken up in order, and that attacking the ganglion should be done as a last resort, especially in old people and those who are unable to stand so formidable an operation as intra-cranial neurectomy. In many cases a simple operation will give considerable relief.

DR. FOWLER explained that the mortality of eighteen per cent. in ligations of the carotids, included cases of aneurisms, gunshot wounds, etc. In fifty-two cases where the vessels were not affected by disease nor complicated by carcinomatous tumors, the mortality was less than five per cent.

DR. P. S. CONNER said the two most important points were the cause of the neuralgia and the results of operative interference. In a certain proportion of cases the exemption from pain ranges from three months to three years, while in another proportion the exemption is scarcely worth mentioning, as the pain returns immediately. In some cases the loss of blood and the shock from the operation have caused periods of freedom from pain. The propriety of the operation has been established, as a man would rather take forty-nine chances out of fifty to get relief.

DR. T. A. MCGRAW was of the opinion that sufficient investigation had not been made of the possibility of the neuralgia being due as well to motor as to sensory nerves, and was not at all sure that a division of some of the motor nerves might not be a great benefit.

DR. RICHARDSON stated that this had been performed and resulted in considerable facial deformity, but no relief of the neuralgia.

DR. S. J. MIXTER mentioned two cases in which merely reopening the old intra-cranial wound had afforded some relief.

DR. TIFFANY, closing the discussion, stated that forty-five operators had participated in the hundred cases reported; in which number twenty-four had operated upon one case only. He also mentioned that there is diminished sensation in these cases, and lessened lachrymation. He considered the curving of the tongue due to atrophy of the muscles, but did not understand why the perception of heat and cold should be interfered with.

As to tying the carotids, Dr. Park, of Buffalo, had successfully done this in two cases.

TUESDAY, 3.00 P.M.

"THE SURGICAL TREATMENT OF TUBERCULOSIS OF THE SOFT PARTS."

"TUBERCULOSIS OF THE MALE GENITO-URINARY APPARATUS."

DR. NICHOLAS SENN, Chicago, not being present, his paper was passed.

"TUBERCULOSIS OF THE FEMALE GENITAL ORGANS, INCLUDING TUBERCULOSIS OF THE KIDNEY."

DR. ALBERT VANDERVEER, Albany, discussed, (1) clinical history; (2) etiology; (3) symptoms and diagnosis; (4) treatment.

This subject had been neglected until recent years, and the modern ideas and progress depend upon careful histological and bacteriological examinations.

Tuberculosis of the female pelvic viscera is not limited to any age, the extreme limits being ten weeks, and eighty-three years. External genital lesions may be confounded with tuberculosis. Heredity is important as suggesting tubercular possibilities. Tuberculosis is extremely rare in the external genitals, but by no means infrequent in the uterus. Tuberculosis of the uterus can be demonstrated by microscopical examination of the discharges and by curetting. Gonorrheal infection is often grafted upon tuberculosis. Sometimes infection takes place through the fingers, or an instrument, or the semen. Tuberculosis originates in the tubes and infects the uterus and the cervix. The uterus can be infected from without or within, and the infection is aided by a lacerated cervix, pelvic peritonitis, trauma, etc.

The symptoms are local irritation, a pea-sized wart near the vaginal outlet, a discharge from the uterus, etc. The differentiation between the ulcers of syphilis and epithelioma depend on age, history, local appearances, etc. Tuberculosis of the cervix may be mistaken for cancer. Many vaginal cases are infected from the tubes, and tubercular peritonitis may infect the vagina and the tubes. The author mentioned several cases illustrative of the points mentioned.

Of tuberculosis of the kidney there may be two forms, miliary and caseous or true tuberculosis. The author detailed of one or two cases, and referred at length to Kelly's "nephro-ureterectomy."

"TUBERCULAR PERITONITIS."

DR. ROBERT ABBE, New York, thought it gave a fairer understanding of the multiform appearances of the disease if viewed from the standpoint of the bacillus, rather than from the gross appearance, which has led to the division into the ascitic, the dry and the caseating forms. A sudden tubercular irruption into the peritoneal cavity may be as acute in symptoms and durations as acute peritonitis from other causes. A slower outbreak may result in ascitic distension in three or four weeks, and a less virulent bacillus action may occupy months in inducing ascites and wasting. In other cases, possibly due to the route of invasion (penetration through lymphatics, communicating mucous and peritoneal serous coats, or by follicular ulcers, allowing tuberculous milk to be the medium of infection), a dry or adhesive form follows, in which hectic and rapid wasting result. Again, the bacillus produces an outpouring of thick lymph

and flocculent serum, which rapidly becomes purulent, producing unsymmetrical cakes of thickened omentum, matted coils of intestine and encapsulated purulent collections. The bacillus products rapidly caseate and ulcerating fistulæ may result. All phases of the disease may be regarded as representing the life history of the bacillus and its products.

Tubercular peritonitis may be, and in the early stages often is, the only site of tubercle deposit in the patient. Hence, if overcome here, a practical cure often follows. Even when other phases of infection (pleural, intestinal, bronchial) are seen, an operative cure of the peritonitis has often been followed by general recovery. The mode of entrance of the bacillus is directly through the intestinal wall, or through ulcerating appendicitic, or tubal or ovarian tuberculosis, or through the blood. The claims of a few recent authors to have cured tubercular peritonitis by medical treatment, were reviewed and credited.

The unquestioned cure of true tuberculosis peritonitis by laparotomy was proved by two classes of cases: those who have long survived operation, and those who, having come to autopsy long afterwards, have been found free from tubercles that studded the peritoneum at the time of operation. Experimental proof in animals corroborates also. Simple laparotomy and evacuation of the ascites, closing the abdomen dry, is credited with a large number of cures. Irrigation with warm salt solution is to be preferred. Camphor-naphthol application, as used by Rendu, is advised for bad cases.

In speaking of direct medication, the theories advanced to account for the surprising cures were carefully considered, and, in conclusion, it was said that, "the theory that is sustained by most facts is that based on the life history of the bacillus and the capacity of the animal economy, not only to suppress the activity of the organism by encapsulating it, but to remove it by absorption. The proper opportunity for conquests is not afforded in the presence of ascitic fluid, which acts as a veritable culture bouillon, and by its fluidity aids dissemination. When, however, the peritoneum has been aroused by congestion, which follows evacuation, and a reactionary inflammation is set up, engendering cell hyperplasia, the intruder is walled in and retrograde degeneration sets in.

"Intra-Thoracic Tuberculosis."

Dr. George Ryerson Fowler, Brooklyn, went into the history of the disease at great length, and devoted considerable attention to the surgical treatment of pleuritis and empyema.

Of all the organs in the human body, the lungs are the most frequently the seat of this affection. Inasmuch as there is no lung affection that cannot be complicated by tuberculosis, it follows that pleural affections are most frequently tuberculous in character. Few patients who have suffered from pleurisy escape tuberculosis, and this fact increases the importance of the surgery of pleuritic affections in their relation to tuberculosis.

The author discussed the effects of the presence of the pleuritic effusion upon the progress of tubercular disease of the pulmonary structure. The view formerly held that the activity of the circulation in the lung tissue constituted a trustworthy means of protection against the occurrence of tubercular infection of the respiratory organs, was combatted and reference was made to the observations of Lænnec, who stated that stasis was incompatible with the progress of pulmonary tubercular affections; and Bier's observations, supported by those of Miller, in the treatment of tubercular joint disease by means of a constructing bandage, was held to confirm the views of Lænnec in this particular. Note was taken of the fact that in any pleuritic affection, even when due without doubt to tubercular infection, the effusion is found to be serum. The suggestion follows that this effusion possesses some resisting influence over the development of the tubercle bacillus, while it undoubtedly forms a favorable culture medium for other organisms.

The application and technique of exploratory puncture or thoracentesis, of incision and drainage, and of Kœnig's operation, the resection of a portion of rib, were gone into extensively, followed by a consideration of thoracoplasty and its indication. Schede's operation for extensive resection of the chest wall, including with the bony resection removal of the attached soft parts, namely, the intercostal muscles and thickened pleural membrane, was described. The edges of the incision should be closed closely about the drainage tube, and the dressing should be applied in such a manner that the tube passes through those. The drainage tube is attached to a tube sufficiently long to lay over the side of the bed and touch the surface of a sublimate solution. When the patient can sit up, the tube is fastened to a bottle at the waist, as suggested by Bulau of Hamburg. By this method of drainage the patient is saved from the discomfort produced by soiled dressings.

The question of the complications occurring in thoracoplastic operations, namely, pulmonary thrombosis, cerebral embolism and the resulting paralysis was alluded to.

The consensus of opinion, at present, discountenance thoracotomy in tubercular patients, preference being given to repeated puncturing, or, at the most, the method of permanent siphonage.

Of the direct treatment of tubercular cavities, it was stated that some difficulty must necessarily be experienced in the selection of proper cases. Cases in which the disease had come to a stand till any interference would be unjustifiable for the reason that it is these cases that undergo cure by natural processes. In addition to limiting operations on tubercular cases to those that are circumscribed, the operation may be applied to certain cases

of a doubtful nature, which form at the expense of both pleura and lung, namely, pulmonary abscesses secondary to tubercular caries of the ribs. Three examples were quoted.

Resection of the lung was discussed and attention called to the fact that the pulmonary structure differs from all other structures in the body in its susceptibility to infection and its anatomical peculiarities.

The experiment of Gluck, of Berlin, and Hans Schmidt, upon the lower animals for resection of the lung, were given in detail. Also those of Virondi, who produced localized tuberculosis in the lower animals.

"Tuberculosis of the Superficial Glands."

Dr. DeForest Willard, Philadelphia, detailed the method of tubercular infection of the lymph modes. The route of entrance is usually by very slight abrasions or injury. Slight wounds are more liable to admit bacilli as they arouse local resistance to a less degree than more severe injuries. The face and neck are especially common routes of entrance. The lymph glands act as filtration stations and often prove effective in overpowering the invading foe. They are likely to be successful in proportion to their amount of resistive force. An individual's resistive force may be lessened by hereditary impairment of cells, or by the temporary condition of the tissues.

Local karyokinetic action may be successful, or, if partially successful, caseation and absorption may occur; with less resistive power, or, if a staphylococcus infection results suppuration follows.

When once the glands have become infected they are a perpetual menace to the general system and should be removed. Suppuration will sometimes effectually destroy all the invading bacilli; yet, this is a slow and dangerous process subjecting the individual to constant risks.

Infected glands should be removed if possible during the stage of induration.

The removal of tubercular glands from the neck is frequently a most serious operation, provided connective tissue infiltration is present and especially if the chain of glands has dipped deep beneath the cervical vessels and nerves or has extended below the clavicle. These deep glands can only be safely removed by following the line of cleavage between the gland and the protection wall which has been partially thrown about it, each gland being cautiously shelled out.

The jugular veins, the branches of the carotid, and the pneumogastic and phrenic nerves should be carefully avoided. When a vein is injured, immediate pressure, with subsequent ligation or lateral suturing should be performed. If the phrenic or pneumogastic are injured they should be at once sutured with fine silk.

Great care should be exercised to prevent the discharge of pus and caseating material upon the fresh wound; if such accident occurs the area should be thoroughly cleansed and disinfected.

Temporary drainage is advisable when infection has occured from such discharge; but in healthy operations with clean enucleation primary union without drainage can be secured.

In infection in the axilla, the glands should be enucleated with the same care that is employed in the removal of carcinomatous nodule.

The same rule holds good in regard to glands situated in other portions of the arm.

In the groin many difficulties will be encountered especially if the indurated glands extend deep about the femoral or saphenous veins.

Secondary operations are advisable if necessary.

In cases that absolutely refuse operation, local and constitutional measures must be employed including tuberculin and sero-therapy.

The author has more confidence in the local effects of iodine upon tubercular granulations than in iodoform. He has also had beneficial results from stimulation of cell growth by a mixture of aristol with nuclein or protonuclein applied locally.

His conclusions are that tubercularly infiltrated glands should not be allowed to remain and contaminate the general system.

Wednesday, 10.00 A.M.

"Does Additional Experience Show that Castration is a Curative Remedy in the Treatment of Hypertrophy of the Prostate Gland."

Dr. Albert T. Cabot, Boston, dwelt at great length upon the operations of castration and prostatectomy, and gave many statistics from various sources bearing upon this subject. After considering the relative merit of each operation, he closed his paper as follows:—

The conclusions which I think we may draw from this examination of the subject are the following:

1st. In the matter of mortality, the operation of prostatectomy has a slight advantage over castration. It seems probable that with later statistics, reflecting the last improvements in the technique of prostatectomy, this advantage would be further increased.

2d. Prostatectomy has the further advantage that it allows of a thorough examination of the bladder and of the discovery and correction of other conditions not before suspected. Stones are frequently removed in this way without adding to the gravity of the operation. In several reported cases of castration, the absence of improvement has led to the subsequent discovery of stones which have acquired other operations for their removal.

3d. Prostatectomy has, on the other hand, the disadvantages that it confines the patient for a longer time and that it is sometimes followed by a fistula. This occurred in one of the forty-two cases used in this paper.

4th. It is too early to know whether any permanent loss of vigor follows castration when done on old men. The nervous effects which sometimes immediately follow the operation, suggest a suspicion that with the testes the system may lose some tonic effect exerted by those organs.

5th. The functional results of the two operations seem at present to be as nearly equal as possible, and the tendency to relapse shows itself in about the same proportion of cases after either operation.

6th. The reduction in the size of prostate after castration is largely due to a diminution of congestion. Later a degeneration and absorption of considerable portions of the gland may occur. The glandular elements are particularly affected by this atrophy.

7th. Castration would seem to be especially efficacious in cases of large tense prostates when the obstruction is due to pressure of the lateral lobes upon the urethra.

8th. Castration is of but little use in myomatous and fibrous prostates.

9th. Prostatectomy has its special field in the treatment of obstructing projections which act in a valcular way to close the urethra. There is, however, no form of prostatic obstruction which a skillful operator may not correct by prostatectomy.

10th. Prostatectomy is then applicable to more cases than castration, and is especially to be selected when an inflamed condition of the bladder makes drainage desirable.

DISCUSSION.

DR. J. EWING MEARS, Philadelphia, was very much struck with the mortality shown from the different operations. He, also, was sorry to learn that no one had any information to offer concerning an operation suggested by himself as a substitute for castration, namely, ligature of the vas deferens.

DR. CHAS. B. NANCREDE, Ann Arbor, said that as a result of his work, he had been converted from a rather doubtful attitude towards the operation to a desire and willingness to do it again. He gave the details of a case operated on by himself, which did very well after the operation, but the patient died in five or six weeks from an infection of his wound.

DR. L. S. PILCHER said that from the statistics mentioned in Dr. Cabot's paper, it would seem that prostatectomy had a slight advantage over castration, not only in its results, but also by affording opportunity to secure relief from other urinary complications at the time of operation. In his own hands, however, all prostatectomy operations had been failures, but he considered that if the opinions of other surgeons could be ascertained, it would probably be found that a much larger proportion of fatal results really occurred than the figures mentioned by Dr. Cabot showed. In his opinion, the operation of prostatectomy had only been resorted to in cases of men who manifested considerable vigor, while, on the other hand, castration has been performed in cases that were already extremely feeble and could not stand a more serious operation, and frequently by surgeons who were not particularly expert in genito-urinary work. In this way, he accounted for the large mortality shown by Dr. Cabot.

DR. J. MCFADDEN GASTON spoke of a method of treatment that had recently been brought to his notice by a gentleman whose name he would not mention, the principle of which method was to endeavor to reduce the size of the prostate by the employment of prostate extracts in a somewhat similar way to the methods now employed with the thyroid extract.

DR. ROSWELL PARK mentioned two cases of castration performed by himself, in which the subsidence in the volume of the prostate gland was remarkably rapid and complete. In his opinion, there could not be a simpler or easier operation.

DR. ROBERT ABBE spoke of one case in which he had removed both testicles under cocaine, with the result that the prostate was reduced more than one-half its size. He compared the operation of castration to that of removal of the ovaries.

DR. CABOT, closing the discussion, said he considered the most important question was not the ability of the operator, but the selection of the cases proper for the operation of castration. If proper selection was made, he believed the mortality would be greatly reduced.

"THE AMBULATORY TREATMENT OF FRACTURES OF THE LOWER EXTREMITIES."

DR. LOUIS S. PILCHER, Brooklyn, mentioned a large number of cases of fracture in which the ambulatory treatment had been employed, and illustrated his paper with diagrams of the apparatus employed. He described in detail the manner of applying the plaster bandages so as to form a sufficiently rigid and protecting case, and also explained the splints used in this method of treatment. The number of cases of fracture of the leg treated by himself up to the present time with the ambulatory dressing, was twenty, and the results that have followed this treatment in these cases have been very satisfactory. The time after the injury when it may be proper to apply the ambulatory dressing depends upon the nature and extent of the damage to the soft parts and the amount of local reaction following the injury.

DISCUSSION.

DR. JOHN E. OWENS, Chicago, stated that cases of fracture of the lower extremity treated by this remedy might be divided into two classes: first, those that walk with the aid of crutches but bear little or no weight upon the affected limb, and second, those that walk on the affected limb, with or without the aid of cane or crutch.

After describing his method of applying the

dressings, demonstrating the apparatus in position, and referring to cases in which he has used it, Dr. Owens concluded as follows:—

"1. That the main object in the treatment is to enable the patient in a few days to get up and walk about on the fractured leg.

"2. That union is accelerated in many cases; comfort, appetite, digestion and sleep secured; swelling, muscular atrophy, pneumonia and delirium tremens prevented and flexion and extension maintained.

"3. That in the application of the dressing the foot is maintained at a right angle to the leg, and extension maintained until the deformity is corrected and the legs are of even length.

"4. That the material usually employed is plaster-of-Paris, in which wooden or metal strips may be included, there being a very thick plaster sole, separated from the foot by a layer of cotton about five centimetres thick, the plaster being carefully moulded with the hand, so as to fit snugly against the upper end of the tibia and about the dorsum and ankle.

"5. It is generally thought best not to apply the dressing until the second or third day after the accident.

"6. The patient must remain under observation in order that any displacement, undue restriction or other defect may be noted.

"7. In fractures of the thigh a combination of plaster-of-Paris and glue is recommended by some, while others have used special splints.

"8. The plaster may be made to include the pelvis.

"9. The dressing may be applied to the leg, and then allowed to harden, after which the patient's hips are raised from the bed, extension being made to correct displacement and the remainder of the dressing applied.

"10. An important feature of the dressing is its strong reinforcement and close application at the upper and back part of the thigh, this securing a firm bearing against the ischium and perineum.

"11. That the sooner the immobilization is affected, the less will be the swelling.

"12. That the method can be applied with great satisfaction, and that an exact fit must be secured."

Dr. A. T. Cabot, Boston, said that in two cases the use of Dr. Pilcher's apparatus had been a benefit in his hands.

Drs. Nicholas Senn, De Forest Willard, Christian Fenger, J. Ewing Mears, Chas. B. Nancrede and Geo. W. Gay did not agree with the methods of treatment suggested by Drs. Pilcher and Owens.

Dr. H. H. Mudd thought the apparatus might work very well in certain cases.

Dr. Moore stated that he had two good results from the employment of this method of treatment in two cases.

Dr. Owens closed the discussion on his paper by stating that he was already on record as having condemned the method, and he merely brought it forward to-day as being of some value in certain cases.

Dr. Pilcher, closing the discussion on his paper, said that, although he was aware that the method was a dangerous one, and should only be employed by men skilled in surgical appliances and surgical materials, yet the good results he had obtained in many cases warranted him in considering it as a good method with which to be familiar.

"The Treatment of Traumatic Lesions of the Kidney."

Dr. W. W. Keen, Philadelphia, after reading a tabulated list of 163 published cases of renal traumatism since 1878, stated that traumatic lesions have, as a rule, two advantages over the lesions of disease; first, being apt to be unilateral, the other kidney is not injured; and second, the injured kidney is apt to be healthy, or fairly so. Gun-shot wounds, on the contrary, have two disadvantages, first, that the treatment of the kidney alone in many cases cannot be solely considered, and second, if the renal substance is only moderately injured, no one would be willing to do primary nephrectomy. As to the treatment of gun-shot wounds, they may be divided into, first, those involving only the renal substance, second, those involving the pelvis, third, those involving the vessels and fourth, those involving the ureter. The incision in most cases should be abdominal, either median or at the outer border of the rectus, and, if the vessels are badly torn so that there has not only been a great deal of hemorrhage but the integrity of the organ is threatened, nephrectomy should be performed.

In treating the extravasated blood in case the kidney is not removed, if the bleeding is into the peritoneal cavity the blood must be removed by abdominal section, but if the blood accumulates in the peri-nephritic tissues alone it may be left undisturbed.

Referring to wounds of the kidney other than gun-shot, (1) only one kidney is usually involved; (2) other kidney is usually healthy; (3) no foreign bodies are apt to be carried in as they are in gun-shot, and (4) other organs are usually not involved. In treating the kidney if the wound is sufficiently large for it to prolapse, it should be sutured and replaced if its condition is suitable, and the same procedure may be carried out if the pelvis of the kidney is opened. A partial nephrectomy would be advisable if a portion of the kidney is so far severed that its future integrity is threatened, and the fragment removed.

Although in most cases of rupture of the kidney but one kidney is affected, occasionally the other kidney ceases to act and anuria results, usually being fatal, while cases are on record where patients have necessarily died after nephrectomy. Rupture is usually transverse to the curved long axis of the kidney and only very rarely longitudinal. If the capsule is not torn, the hemorrhage is not apt to be very great, but whether or not the peritoneum is torn is a much more important

question, as, if it is, both blood and urine will escape into the peritoneal cavity.

As the dangers of rupture of the kidney are primary and secondary, the treatment may be conveniently so divided. Usually it must be decided if a nephrectomy shall be done within the first few days or even hours, but it may occasionally be postponed and become a secondary operation, when the lumbar route will be best.

Of 116 cases of rupture of the kidney reported, sixty-six recovered. Secondary nephrectomy is nearly twice as fatal as primary.

Dr. Keen's paper was discussed by Dr. T. A. McGraw, Dr. H. H. Mudd, Dr. Christian Fenger, Dr. DeForest Willard, Dr. Nicholas Senn, Dr. L. McLane Tiffany, Dr. Joseph Ranschoff and Dr. Chas. B. Nancrede, all of the speakers agreeing with Dr. Keen in practically every respect.

PERISCOPE.

THERAPEUTICS.

Turkish Baths in Mental Disorders.

The Turkish bath may be used beneficially in certain cases of melancholia of recent occurrence, according to Dr. L. Forbes Winslow, in the Detroit *Medical Age*. It calms the nervous system and reduces mental depression without ensuing risk. Also in cases of threatened recurrent mania it sometimes cuts short the attack if used immediately when the symptoms are returning. The violence and muscular resistance, so often associated with insanity, are generally symptomatic of profound nervous and vascular depression. The excitement of the insane is an excitement without power, and it must be left to the discretion and experience of the physician versed in the practical use of the Turkish bath to discriminate as to what acute cases it may be used in beneficially, for in some cases it is our duty to conserve and husband the flagging and ebbing vitality of the patient until the mind recovers its equilibrium. If, in the treatment of acute brain diseases, the Turkish bath is prolonged in the first instance, fatal results may follow; of this there is abundant proof. In cases of wild delirium, dry and parched skin, the conjunctivæ injected, much improvement has followed upon even the first bath; but it should be of short duration, each alternate bath following to be of gradually increasing length. In the treatment of acute brain disease, the whole process of the first bath should not exceed half an hour.

NEWS AND MISCELLANY.

Vacancies in the Medical Corps of the United States Army.

There are at present three vacancies in the Medical Corps of the United States Army, and it is expected that at least three more will occur during the present year. As usual, an Army Medical Board will meet in Washington, early in October, for the examination of candidates. The requirements for admission to the Medical Corps are stated in a circular issued by the Surgeon General of the army, dated May 21, 1896, and approved by the Secretary of War, as follows:

"Permission to appear before the Board is obtained by letter to the Secretary of War, which must be in the handwriting of the applicant, giving the date and place of his birth and the place and State of which he is a permanent resident, and inclosing certificates, based on personal acquaintance, from at least two reputable persons as to his citizenship, character and habits. The candidate must be a citizen of the United States, between twenty-two and twenty-nine years old, of sound health and good character, and a graduate of some regular medical college, in evidence of which his diploma will be submitted to the Board. The scope of the examination will include the morals, habits, physical and mental qualifications of the candidate, and his general aptitude for service; and the Board will report unfavorably should it have a reasonable doubt of his efficiency in any of these particulars.

"The physical examination comes first in order, and must be thorough. Candidates who fall below sixty-four inches in height will be rejected. Each candidate will also be required to certify 'that he labors under no mental or physical infirmity or disability which can interfere with the efficient discharge of any duty which may be required.' Errors of refraction, when not excessive, and not accompanied by ocular disease, and when correctible by appropriate glasses, are not causes for rejection.

"The mental examinations are conducted by both written and oral questions, upon—

"I. Elementary branches of a common school education, including arithmetic, the history and geography of the United States, physics, ancient and modern history, and general literature. Candidates claiming especial knowledge of the higher mathematics, ancient or modern languages, drawing, analytical chemistry or branches of natural science, will be examined in these subjects as accomplishments, and will receive due credit therefor according to their proficiency.

"II. Professional branches, including anatomy, physiology, chemistry, hygiene, pathology and bacteriology, therapeutics and materia

medica, surgery, practice of medicine, obstetrics and the diseases of women and children.

"Examinations will also be conducted at the bedside in clinical medicine and surgery, and operations and demonstrations will be made by the candidates upon the cadaver.

"Hospital training and practical experience in the practice of medicine, surgery and obstetrics are essential to candidates seeking admission to the Medical Corps of the army, who will be expected to present evidence that they have had at least one year's hospital experience or the equivalent of this in practice.

"To save unnecessary expense to candidates, those who desire it may have a preliminary physical examination and a mental examination in the 'elementary branches of a common school education,' by a medical officer of the army, stationed most conveniently for this purpose, who will act under instructions from the Medical Examining Board."

A premium of $250 is offered by the *Scientific American* for the best essay on "THE PROGRESS OF INVENTION DURING THE PAST FIFTY YEARS."

This paper should not exceed in length 2,500 words.

The above-mentioned prize of $250 will be awarded for the best essay, and the prize paper will be published in the Special Fiftieth Anniversary Number of the *Scientific American* of July 25th. A selection of the five next best papers will be published in subsequent issues of the *Scientific American Supplement* at our regular rates of compensation.

The papers will be submitted for adjudication to a select jury of three, to be named hereafter.

Rejected MSS. will be returned when accompanied by a stamped and addressed envelope.

Each paper should be signed by a fictitious name, and a card bearing the true name and the fictitious name of the author should accompany each paper, but in a separate sealed envelope.

All papers should be received at this office on or before June 20, 1896, addressed to

EDITOR OF THE SCIENTIFIC AMERICAN,
361 Broadway, New York.

The Relations of Physicians and Hospitals.

The following is the report of the Committee of the New York County Medical Association on the relations of physicians and hospital appointments:

"We have held many sessions, have listened to much testimony and have found witnesses all agreeing that a plan of making nominations of attendants at the public hospitals has been adopted. This plan bars out the profession-at-large and delivers all the clinical material over to the control of the colleges—ostensibly for the benefit of the students, but really tending to the construction of a monopoly—which shall prevent all opportunity for the development and higher education of that large and able body of consultants who are not affiliated with the teaching faculties—thus bringing to pass the idea that consultation fees shall become professors' perquisities.

"We requested a hearing from the previous Board of Charities. Our request was ignored and unanswered. We respectfully solicited an audience with the present commissioners, in the interests of justice, and they have heard us fully and attentively. They are now deliberating as to what action they will take, until such time as the other side of the question is presented.

"All of the invited witnesses not belonging to the association have either appeared or promised to do so when invited. Some of those who are members have not come when requested. The Corresponding Secretary wrote to Dr. Austin Flint, who sent the chairman a letter asking the purposes of the committee, but he neither appeared nor gave to the secretary the courtesy of a reply. Furthermore, the said Dr. Flint, in an article published in a daily journal, the New York *Herald*, is quoted as saying that 'our investigation had degenerated into an attack upon Bellevue Medical College.' This statement, in justice to ourselves, we must declare untrue, as your committee has never attacked Bellevue College, though many members of the profession have thought we ought so to do.

"We consider it only proper that members of the association should come before us when called upon.

"Finally, from evidence submitted, it does seem as if there had been a successful attempt to construct a charmed circle, entrance to which should be granted to very few—and then only by personal 'pull' with the college faculties—and quite irrespective of scientific attainments. In other words, our matured opinion is that the so-called 'reorganization' was a great conspiracy to control the whole medical patronage of New York County.

"Respectfully submitted by the Committee.

"DOUGLAS H. STEWART, M.D.,
"*Corresponding Secretary.*"

In Consideration of the General Theory that the death of the son of Prof. Langerhans was not due to anything deleterious in the serum employed or to the mode of administration, but to shock from fright, a new syringe designed by Dr. E. W. Saunders of St. Louis for the injection of diphtheria antitoxin deserves notice. The Koch syringe is apparently crude, the large canula attached to the barrel of the instrument admitting of a rapid infiltration of the subcutaneous tissue, often producing most excruciating pain, while the introduction of the canula alone is sufficient to cause great distress. Dr. Saunders' syringe consists of a glass cylindrical vessel closed by a doubly perforated rubber stopper from which emerge two metal tubes one of which leads down to the bottom of the vessel, while

the other stops a little below the stopper. To the latter is attached a rubber bulb by means of about four inches of rubber tubing. To the other metal tube is attached a rubber tube holding at its extremity a metal screw upon which the canula of a Pravatz syringe may be attached. This completes the instrument, by means of which a fine and constant stream of fluid, whose pressure may be easily regulated by a more or less frequent compression of the rubber bulb, can be injected hypodermically without creating undue pressure upon the neighboring tissues.

Turpentine is Advocated as a most effectual agent in controlling post-partum hemorrhage by Dr. N. Mayne in *The Trained Nurse*. He says he has used it for a number of years in some very severe cases and always with the best results. After the failure of all ordinary means, by saturating a piece of lint with turpentine and introducing it with the hand into the uterus, and holding it against the walls, rapid contraction was induced and all hemorrhage instantly ceased. In one or two cases, when the patient was almost pulseless, it seemed to act as a stimulant. On no occasion did this action fail, nor did it cause the slightest inconvenience except in one when the side of the patient's thigh was slightly blistered by some that came in contact with it, but it gave very little annoyance. It seems much quicker and surer in its action than any other remedy, and does not cause any injurious result, and is much more easily applied. In country practice, getting hot water or using injections, often means loss of time.

The Drop-Frame was Bicycle Invented in 1888 by W. E. Smith, who built one for his wife. Mrs. Smith's first wheel weighed sixty pounds. She herself tipped the scales at eighty. Since then she has gained forty pounds, and her wheel has lost exactly the same amount—which says a great deal for the evolution of both women and bicycles.

A Cholera Miasm, Similiar to that of 1883, overhangs Cairo, Egypt. It is accompanied by a heavy, hot atmosphere. The virulent form of the disease has hardly ever been paralleled at such an early stage. The deaths are about ninety per cent. of the seizures.

A New Method of Administering Calomel which may be of great use is given by Dr. J. N. Hall of Denver, Col., in the *Medical News*. He says that in cases where the medicine could not be given by the mouth without a struggle a simple and effective expedient is to blow calomel into the nostril through a tube or roll of paper. The patient may be blindfolded, or, better, led to shut the eyes tightly, to escape having the application made directly to them, for such deception is certainly justifiable in some cases. The drug is nicely distributed over the nasal tract, finds its way into the intestinal tract, and operates as if given by mouth. It is not painful nor disagreeable, as has been demonstrated by personal trial.

A New Reason for Favoring Cuban Independence is given in the danger of the spread of yellow fever from there. The policy of Spain has always been to get from Cuba the maximum of money with the minimum of expenditure, and hence little, if any, attention has been paid to the requirements of sanitary science on the Island. With independence and self-government, this would probably be changed and our Southern ports will be less liable to infection from yellow fever, to say nothing of the always possible danger from leprosy.

Recent Bacteriological Investigations show that 1 cc. of oyster juice will produce in an agar culture 1,500,000 colonies. This observation justifies the position of the late Dujardin-Beaumetz that oysters shall never be eaten by persons with feeble digestion or by those suffering with dilatation of the stomach. There is no article of food which decomposes more readily in the stomach than does the oyster, and none more likely to communicate infection through the setting up of decomposition and fermentation in other foods. The oyster is always a carrier of microbes, and recent observations show that it often communicates typhoid fever and other pathological germs.

The treatment of asthma, according to Dr. A. J. Saunders, in the *Canadian Practitioner*, should be as follows: The first care should be to seek for and remove all sources of irritation so far as possible. Carefully examine the nose and pharynx for polypi adenomatous growths and catarrhal troubles. Treat any dyspeptic trouble, exercising care in regard to overloading the stomach. Give change of air when the attacks are confined to certain seasons of the year, as hay asthma, going to some place with a dry elevated atmosphere. For relief during the attacks, morphia, given hypodermically, is probably the most efficient remedy known, although any mixture of saltpetre with datura of almost any variety will often prove efficacious when every other means will fail.

An interesting case of mastoid abscess, complicated with lateral sinus thrombosis and diabetes, was recently reported to the Kansas Medical Society, by Dr. G. A. Wall, of Topeka. The case was taken ill on November 4, 1895, operated on December 17, 1895, and was up and around on January 6, 1896, a little over two weeks after the operation.

The trouble followed an acute attack of

hemorrhagic otitis media in a lady, sixty-two years of age, and diabetic. From the day of the operation, the patient made an uninterrupted recovery and at present is attending to her usual household duties, the hearing in the ear is normal, which is certainly unusual after so severe an operation. Under the proper dietary the sugar decreased from seven per cent. on November 12th, to less than one-half of one per cent. at present.

The diagnosis in the case was made by the violent oscillations of temperature, it having gone as high as 106° F., and down to normal in the course of a few hours. The main diagnostic symptom, according to the author, to rely on is the temperature. Dr. Wall believes that he deserves especial credit for a good diagnosis of an obscure disease which has not been made as frequently as it should have been heretofore. Dr. Keen states that it has only been since 1884 that the disease has been diagnosed and successfully treated. In American literature, the author stated that only four cases had been reported, and his was the last. He claimed that nearly all cases of even simple mastoid trouble, when in a diabetic, were very liable to end in death.

Dr. Wall dwelt forcibly on the dangers of middle ear inflammation when there was any kidney disease, especially diabetes, since all middle ear inflammations of an acute character were more liable to end in serious complications, when such was the case. He also stated that, in all hemorrhagic inflammations of the middle ear, not due to injury, we should always examine the urine very carefully, especially for sugar.

Atropine is Now Used Abroad to a very limited extent as a mydriatic, scopolein supplanting it since it does not cause glaucoma.

What is the Function of the Omentum? According to Byron Robinson, "the omentum is like a moving sentinel, whose beat extends over the whole peritoneum to guard the invasion of infectious foes. Its method of defense is to build forts of exudates, which not only act as barriers against the microbe hosts, but bury the slain of the battle, and starve the remaining ones within circumscribed prison walls." The California *Practitioner* suggests another obvious function in saying that it serves to keep the intestines warm. When the skin becomes chilled, a largely increased supply of blood goes to the omentum, containing as it does an immense number of very dilatable vessels, and the intestines are protected against cold by an additional barrier resembling a hot water bag.

When a Woman Dies Before Labor has begun, immediate delivery by the natural passages is necessary. According to Claverie the cervix should be laid open to facilitate immediate dilatation. Cæsarean section, it is said, has revived apparently dead women when the knife had already been used too freely and too roughly to allow of permanent resuscitation. Some of these gruesome incidents may be fables, muscular twitchings being mistaken for signs of life. In any case, however, no woman has been victimized in this manner when delivered after Duparcque's principle, whilst several have proved to be alive and subsequently recovered. Though delivery through the vagina takes some time, it can be commenced at once in private or hospital practice, so the child is usually got out more quickly than by Cæsarean section. It appears from statistics that as many, if not more, children are saved by Duparcque's method. The cutting open of the cervix is, of course, very essential when the body is that of a primipara. Artificial delivery is always preferable to Cæsarean section if it is not quite certain that the mother is dead.

Camphorated salol, a transparent fluid made by moistening four parts of camphor with a few drops of alcohol and rubbing in a mortar with one part of salol, is claimed by Dr. Bowen in the *Boston Medical and Surgical Journal* to be most excellent in the treatment of boils and carbuncles. When applied to the lesion a change takes place in from twelve to twenty-four hours; pain diminishes and the tumor becomes progressively smaller, without the formation of pus. The part is covered with cotton soaked in the remedy, with an impenetrable outside covering.

Creosote has found a new field of usefulness in the treatment of septicemia, according to the *Medical Times*, it having been given an extended trial in the infection in Germany, and apparently with very valuable results. Still the results as quoted seem somewhat curious, considering that the direct bactericidal effect of the drug has been disputed; and that it has been proved for example that it has no direct action upon the bacillus of tuberculosis. Pure creosote was used in a solution with equal parts of camphorated oil, and of this twenty minims was injected under the skin three times a day. In various cases, even when the temperature was 104 degrees and the pulse 140, this injection was followed by a rapid fall of the temperature nearly to normal and a proportionate decrease in the rapidity of the pulse-rate. Patients who seemed to be in an almost hopeless condition, and in whom this treatment was exclusively tried, recovered perfectly. Apparently no serious local or general consequences followed. The procedure is certainly safer than the intravenous injection of a solution of corrosive sublimate advised by Kezmaregky for septicemic conditions.

The Following Notes on the Efficacy of mercury and the iodide of potassium were compiled by Chibret as the result of an experience of nearly nineteen years, taken mostly

from an ophthalmological practice. He claims that potassium iodide acts only in eliminating the mercury, and recommends especially injections with soluble salts, such as mercury cyanide with cocaine. One injection is made at first daily (in malignant syphilis) and then three times a week. The only bad result from this treatment is that sometimes diarrhœa follows. He recommends an interrupted treatment of two or three years. He says that: 1. In syphilis of the eye, mercury only invariably acts, but the iodide never. 2. In general syphilis mercury is almost always efficient by itself and in all syphilitic manifestations. Potassium iodide alone only effects certain symptoms and is not reliable. 3. In general syphilis as well as in syphilis of the eye the result of the mercurial treatment is a support to the diagnosis. 4. Mercury—the specific against syphilis—is at the same time a poison for the organism, especially for the nervous system, consequently syphilis of the nervous system is a very severe disease. 5. Potassium as an antidote to mercury is often indicated in syphilis in order to eliminate the mercury more rapidly. 6. Potassium iodide acts especially upon the lymphatic glands and in rheumatic trouble. 7. Malignant syphilis can only be cured by mercury or combined with the iodine.

Medical Conventions, 1896.

Physicians and others attending the various Medical Conventions for 1896 should bear in mind that the B. & O. offers special inducements to conventions of this kind. The scenic attractions of this route are unsurpassed in this country. All B. & O. trains between the east and west run via Washington, and sufficient time limit is given on tickets to allow a stop-over at the National Capital.

The meeting of the Amer. Assoc. Genito-Urin. Sur. will be held at Atlantic City, first week in June.

The meeting of the Amer. Gynecol. Soc., in New York, May 26.

The meeting of the Amer. Laryngol. Asso., in Pittsburg, early in May.

The meeting of the Asso. Mil. Sur. of U. S., in Phila., May 12, 13 and 14.

The meeting of the Climato. Asso., Lakewood, N. J., May 12 and 13.

For rates and other information, address Chas. O. Scull, General Passenger Agent, Baltimore, Md., or L. S. Allen, A. G. P. A., Chicago, Ill.

Reduced Rates to Washington.

The Young People's Society of Christian Endeavor will hold their Annual Meeting in Washington, D. C., July 7th to 13th.

For this occasion the B. & O. R. R. Co. will sell tickets, from all points on its lines, East of the Ohio River to Washington, at one single fare for the round trip, July 6th to 8th, inclusive, valid for return passage until July 15th, inclusive, with the privilege of an additional extension until July 31st by depositing tickets with Joint Agent at Washington.

Tickets will also be on sale at stations of all connecting lines.

Delegates should not lose sight of the fact that all B. & O. trains run via Washington.—8-t.

A case in some respects without a parallel is reported in *The Nursing Record.* A woman when six months pregnant was stabbed twice in the abdomen. Both wounds penetrated the abdominal cavity, and as there were signs of internal hæmorrhage, the abdomen was immediately opened. The uterus was found to have been perforated in two places by the knife, and the wounds were closed by sutures, the hæmorrhage being thus checked and the immediate danger removed. The patient progressed very well until the third day, when severe pains came on, and, on the next day, an abortion took place, from which she completely recovered. The fœtus was dead, and on being examined, it was found that one stab had penetrated into the left side of its chest, and that another had wounded the small intestine in two places, purulent peritonitis having thus been set up. The case seems unique, and the fact that peritonitis from the intestinal wound had been caused in a six months' fœtus is a clinical fact of the greatest interest.

Reduced Rates to St. Louis.

The Republican National Convention will meet in St. Louis June 16th. For this occasion the B. & O. R. R. Co. will sell Excursion Tickets from all stations on its line East of the Ohio River for all trains June 12th to 15th, inclusive, valid for return passage until June 21st, at one fare for the round trip.

The Baltimore & Ohio is a direct line to St. Louis, running two solid vestibuled fast express trains with through Pullman Sleeping Cars attached every day in the year.

For rates and other information apply to nearest B. & O. Ticket Agent. 5-16-5t